

Modern **LITHOGRAPHY**

JULY • 1945 • VOLUME 13 • NUMBER 7

ml



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• One of America's foremost lithographers writes "our three all-buckle Baum Folders have returned us a net profit of fifty times their cost."

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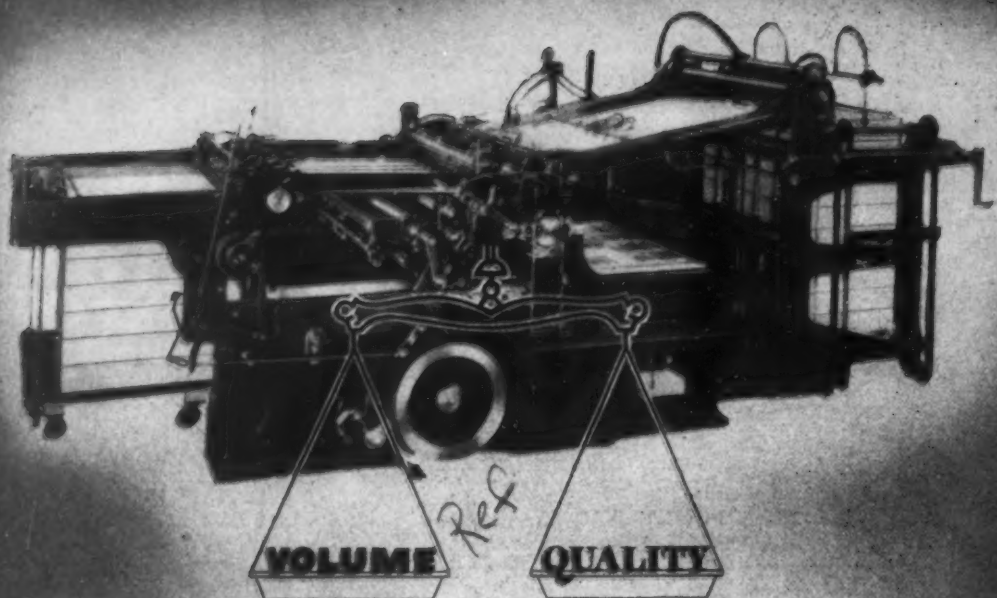
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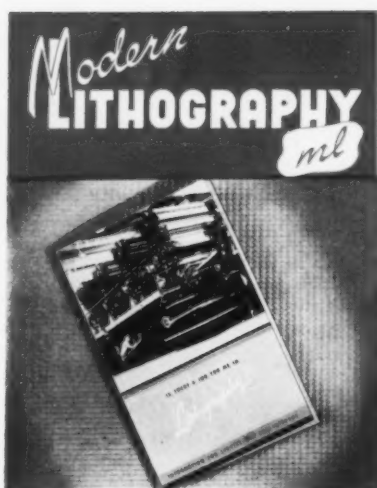
Basic Axioms in a Wartime Economy No. 9



*Versatility to print volume and / or
quality at will, is a requisite
of America's commercial pressrooms
~ and distinctly characteristic of
Miller Automatics*



Ref



THIS MONTH'S COVER

This long-heralded booklet, compiled by the Joint Lithographic Advisory Council is now published and available for the task ahead of absorbing qualified veterans into the lithographic industry. (Story page 49.)

JULY, 1945
VOLUME 13, No. 7

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MODERN LITHOGRAPHY

Reg. U. S. Pat. Office

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MODERN LITHOGRAPHY

TEXT PAPER Re-Defined!

An early glossary of the graphic arts defined Text Paper as "a fine grade of rough-surfaced printing paper, used where artistic effects are desired in books, booklets, and similar forms of printed matter."

This definition would have to be revised today, for Text Paper—Cover Paper, too—have grown up to become two of the most versatile surfaces in the entire field of advertising. Their true usefulness and adaptability haven't been fully explored . . . and can't be, perhaps, until peace-time production and creation are again possible.

Keep this in mind when you buy HAMILTON ANDORRA TEXT and COVER, HAMILTON VICTORIAN TEXT and COVER, HAMILTON KILMORY TEXT and COVER, and HAMILTON WEYCROFT COVER.

Continue to use these papers "where artistic effects are desired in books, booklets, and similar forms of printed matter." But use them, as well, where *results* are desired from such direct-advertising media as folders, circulars, sales letterheads and envelopes, envelope enclosures, package and bill inserts, self-mailers, broadsides, and the like.

HAMILTON PAPERS

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Einson-Freeman Company, Inc., in New York City, has found aluminum litho plates keep a sharp, clean image longer. In addition, the light color of Alcoa Aluminum Lithographic Plates makes it possible to check work before plates are put on the presses. Talk with your distributor about them, or write Aluminum Company of America, 2116 Gulf Building, Pittsburgh 19, Pa.



Photo composing an aluminum litho plate on a step and repeat machine at Einson-Freeman Company.

ALCOA ALUMINUM LITHO PLATES

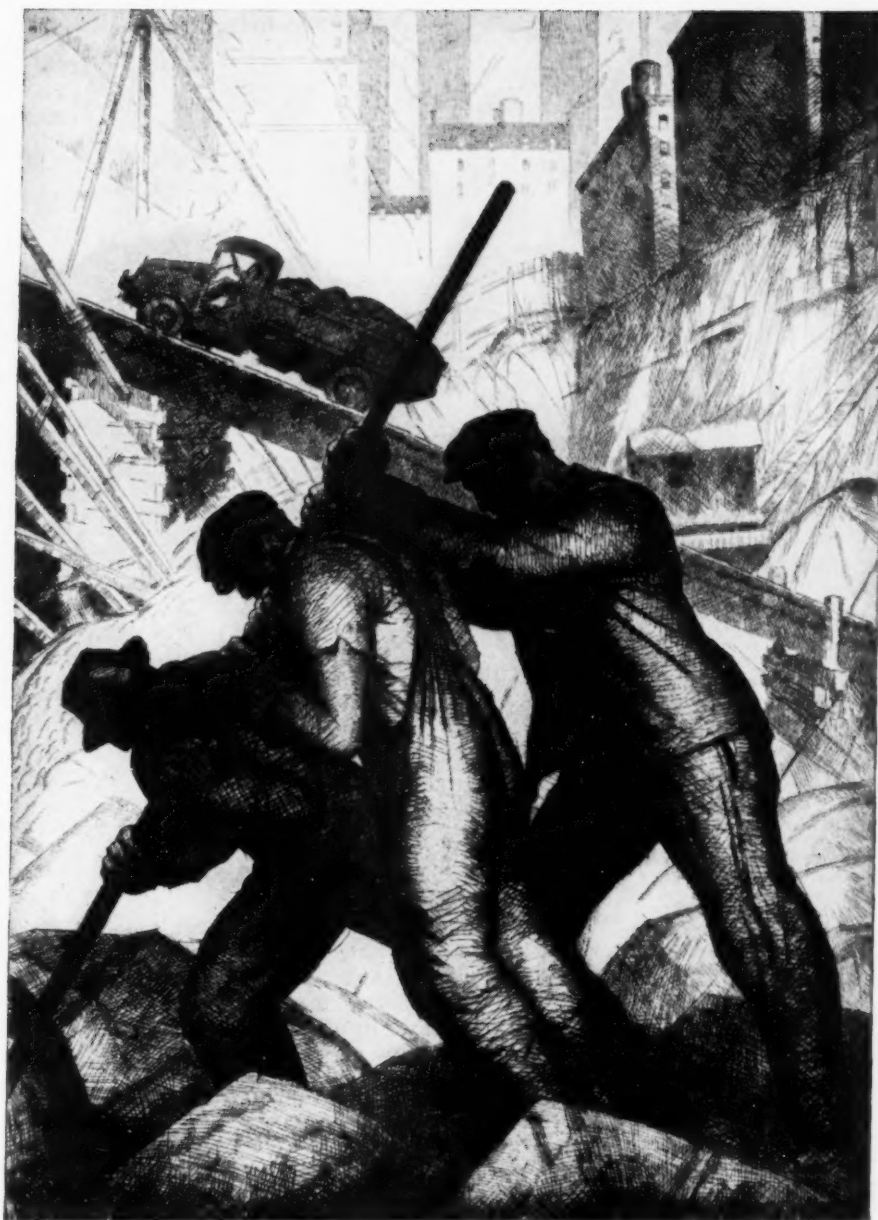


ONE COULDN'T DO IT ALONE!

No single one of us alone could have handled the problems arising from the serious war-time shortage of paper. With an all-out war with Japan ahead of us, it still needs the combined efforts of all concerned, from the mill to the ultimate user of paper.

Fortunately, the necessary cooperative spirit showed itself from the very start. Mills and distributors have worked together to spread out the supply as fairly as possible. Buyers of paper have shown an amazing degree of ingenuity in fitting the job to the paper available.

Out of this wartime teamwork has come a stronger industry, with a new awareness that the problems of one are the problems of all . . . to be best solved through continued cooperation. International Paper Co., 220 East 42nd St., New York 17, N. Y.



Lithograph by James E. Allen

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... don't grope!



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Complete cost system adaptable to any plant; economic hourly costs and production standards prepared so that any shop may fill in its own figures in standard forms; trade practices and information on court rulings affecting lithography; annual convention devoted to management, sales and production.

IT requires clear thinking and up-to-the-minute knowledge to keep a lithographic plant in successful operation in today's complex situation. Management which is trying to grope its way is at a real disadvantage. Conditions are changing overnight, and it is often vitally important to have the latest information at your fingertips. Problems of manpower, price ceilings, priorities, repair parts, shortages, taxes, paper restrictions, sometimes are overwhelming, and executives who must be concerned with management and production do not always have time to wade through the quantities of important material emanating from Washington.

It is the purpose of your trade association to study, digest, and explain these complex factors and to place the answers to your problems at your fingertips. Members of the National Association of Photo-

Lithographers regularly receive helpful bulletins prepared for ringbinder filing for quick reference. Much of the material contained in these bulletins deals with WPB, Manpower, Labor, and Wages and Hours. Occasional data sheets are issued on Trade Practices, Costs and Estimation, Selling, Production, Copyrights, and Management. They contain down-to-earth information to help our members with their everyday problems. Thus, members may benefit from the experience of others.

Member companies' dues are determined by the number of presses operated so that membership fees are at all times in proportion to the size of the company. If you are a responsible executive and would like to obtain more information on the work of the NAPL, without obligation, send in the coupon below.

Walter E. Soderstrom, Executive Secretary

NATIONAL ASSOCIATION OF PHOTO-LITHOGRAPHERS
1776 Broadway, New York 19, N. Y.

Gentlemen:-

We would like to know more about your Association. Our press equipment is as follows:

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First quality inks that satisfactorily pass exacting tests can only be developed in a laboratory where rigid control is consistent. For 75 years FUCHS & LANG has exercised such control in the manufacture of offset inks and that is why lithographers, from coast to coast, know they can rely on inks made by F & L.

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It is SAFE in more ways than one, as:

It contains absolutely nothing of a poisonous or harmful nature, and eliminates the possibility of chromic acid poisoning;

Does not bite the work and will not injure the finest lines or tints;

Works equally as well on stone, aluminum or zinc when used according to directions.

It is a TIME SAVER and ECONOMICAL, as:

It is only necessary to go over plate evenly once, as its action is instantaneous;

It is not essential to wash off and regum plate;

It will reduce the consumption of gum arabic;

The time saved will more than pay for its cost;

As a preservative for putting away originals or transfers for future use it has no equal and is far superior to the method of simply gumming up with gum arabic.

As a FOUNTAIN ETCH:

Two ounces or less added to one gallon of water is all that is required.

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TRADITIONALLY PREFERRED FOR PRECISION PRINTING PRODUCTION



With the lightening of the shadows of our day comes a new order of things. Not "reconversion" but rather resumption of a journey upon a known course with friendly travellers and to a mutually desired destination. Displaced relationships will have to be readjusted and limited services broadened. The wartime restrictions we have all shared will ease with time — time in which to put finishing touches to a new "high" in Paper perfection and production service.

VICTORY *War Quality* PAPERS

THE NORTHWEST PAPER COMPANY • CLOQUET, MINNESOTA

JULY, 1945

11



In a hurry? Then you'll appreciate these easy-to-handle advantages of Ansco Reprolith Films:

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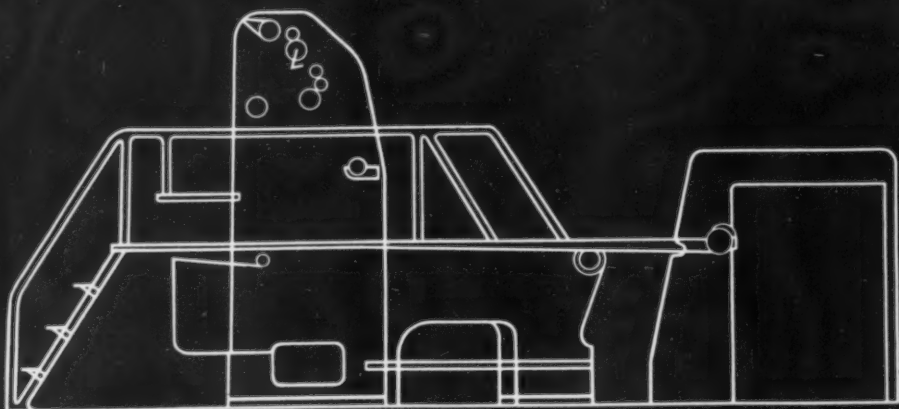
by minor exposure errors, development temperature, or partial exhaustion of developer.

—Reproolith films dry *quickly*. And they dry **FLAT!**

Quality-conscious?—Compare Reprolith with your present film for solid blacks and clear whites—for resolving-power and crisp halftone-dot quality. Make your next job easier—with the film that's *easy to handle—hard to beat!* Comes in blue-sensitive, ortho and pan emulsions—in standard and extra-thin (reversible) thicknesses of base. **Ansco, Binghamton, New York.** A Division of General Aniline & Film Corporation.

Ansco REPROLITH FILMS

EASY TO HANDLE... HARD TO BEAT



PLANNING AHEAD *with* METAL DECORATORS

Although Hoe production facilities are still ear-marked for vital war requirements, plans are being made to adequately meet the coming press needs of metal decorators.

In the past, developments and refinements originated by Hoe have speeded up and improved the quality of metal lithography.

Today, under the stress of war-time operation, Hoe presses are consistently turning out quality work at high speed—practical testimony to their quality, durability, and outstanding performance.

Tomorrow, when presses replace war material on our production schedules, our determined policy of planning for the future needs of metal decorating guarantees that Hoe presses will be forthcoming expeditiously to meet the industry's needs.

A Hoe representative is ready to discuss your future requirements now.



R. HOE & CO., INC., 910 EAST 138 STREET, NEW YORK 54, N. Y.

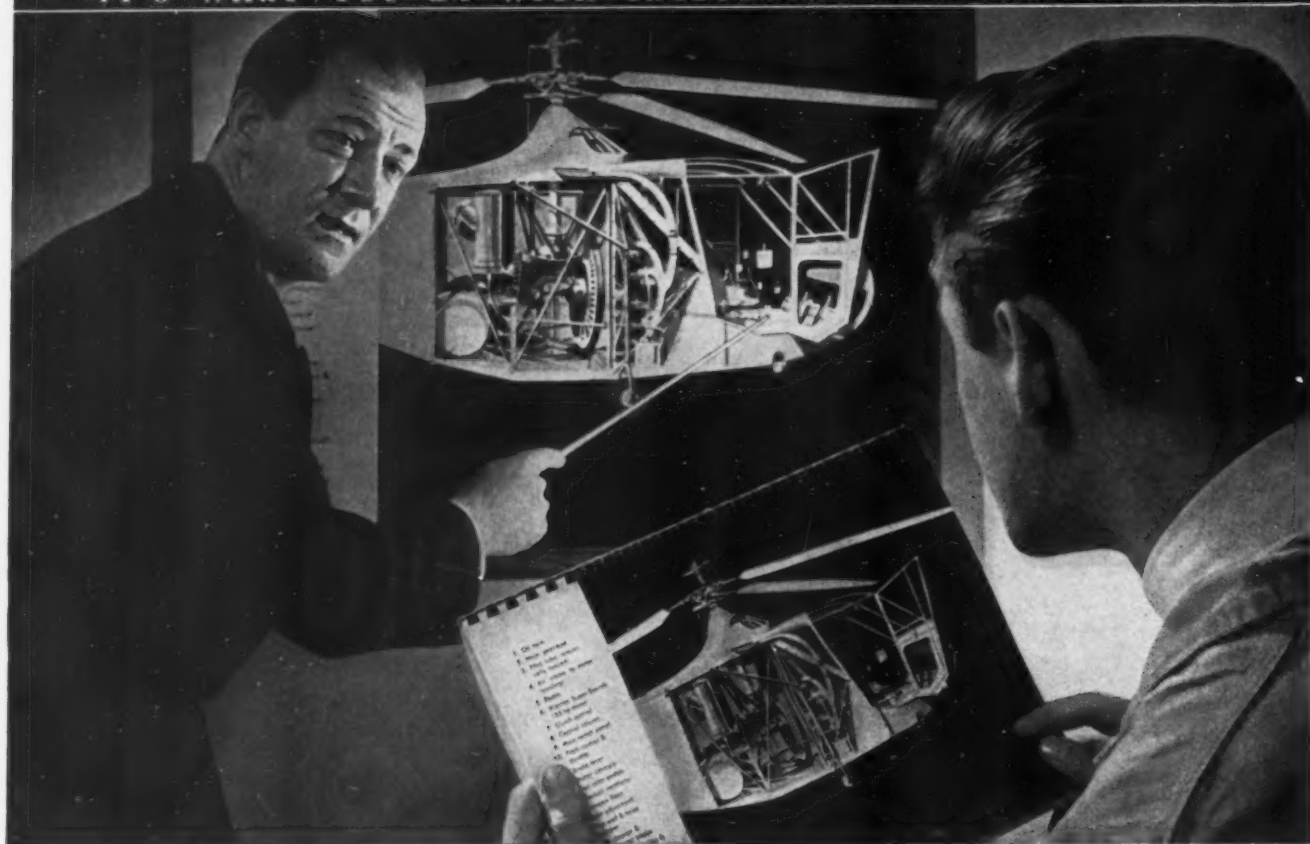
CHICAGO

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SAN FRANCISCO

IT'S WHAT YOU DO WITH CELLULOSE FIBRE THAT COUNTS



Good Schooling for Peace, too

War isn't all boom and blast. Some of it is constructive information and instruction, of value in peace too.

For example—the modern printed instruction books and guides, used in training our armed forces, deal with subjects such as aviation, navigation, mechanics, engineering and electronics.

Thus the Army and Navy have found paper and printing invaluable in giving a quick, clear understanding of a subject.

In the civilian economy of tomorrow there will be vast need of modern brochures, booklets, folders and catalogs—to interest and convince prospective dealers and consumers—to illuminate fine sales points of post-

war products—to create new markets and revive old ones.

To help meet wartime needs for many kinds of papers, Oxford has combined continuous research with the experience gained in making more than 1,000 miles of fine printing paper every day. This combination has given us an unusual fund of knowledge to apply to printing problems. And it will prove to be equally useful to all users of fine printing in the fruitful years ahead.

Included in Oxford's line of quality printing and label papers are: Enamel-coated—Polar Superfine, Mainefold, White Seal, Rumford Enamel and Rumford Litho CIS; Uncoated—Engravatone, Carfax, Aquaset Offset, Duplex Label and Oxford Super, English Finish and Antique.



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MODERN LITHOGRAPHY

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● Sure you'll get plenty of work, but getting a job is but a small part of the process of building a business. Producing work in a manner which so completely satisfies the customer that he wouldn't think of taking orders elsewhere is the important consideration.

No matter how "hot" your sales crew, how fine your equipment, nor how expert your pressmen, all your efforts are of no avail if you are unable to keep up with your presses with the quality and volume of work and service generally expected.

That's why we, here at Graphic Arts, refuse to compromise on quality, regardless of the urgency of producing the tremendous flood of work which is pouring in daily. Doing the "impossible" under the handicap of wartime limitations and shortages,

Graphic Arts, working 24 hours a day, has continued rendering the same superior service which has made this the plate and color headquarters for more than 150 of America's leading lithographers.

Unfortunately, we have been unable to accept all work on a "rush" basis, but our wide range of modern technical equipment, operated by our master craftsmen, has permitted taking care of most requests—affording good service, with overnight delivery to most offset printing centers. Write, wire or phone your requirements.

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The Big Chief
handling sheet sizes from
11 x 17 to 23 x 29

The Chief
handling sheet sizes from
8 x 10 to 17½ x 22½

The Little Chief
handling sheet sizes from
8 x 10 to 14 x 20

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MODERN LITHOGRAPHY



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...During the war, these materials were on the job at every battle front and on the home front doing

their part for Total Victory.

...And when victory has been won, Sinclair & Valentine Products will continue their march around the globe, working for peace and reconstruction.

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GRAVURE

INKS

LITHOGRAPHIC
ANILINE

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Asked the Visitor of the Paper Chemist:

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Said the Paper Chemist to the Visitor:

Because all Parsons Papers are made from new, clean cotton cloth cuttings and new cotton fiber. Rag-content paper may be, and frequently is made with old, used rags.



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***This Helps You Sell
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If more buyers of paper knew the reasons why high quality paper is better, more would insist upon good paper. They should know not only how it does a better job for them but what is done at the mill to make it better paper . . . PARSONS is helping to up-grade paper selling with messages like this.

This advertisement appears in Nation's Business, Business Week, Burroughs Clearing House, Dun's Review, Banking, Journal of Accountancy and The Controller—magazines read by over seven hundred thousand of the best prospects for quality papers in modern business.

Because your customers will get better performance from the paper they use, it's always wise to recommend to them only high quality cotton fiber papers for stationery and records. In PARSONS *complete* line of bonds, ledgers and index bristols (plus special technical papers) there is everything you need from 25% cotton to the finest linen and all-new-white-rag papers.



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101 SIXTH AVE.
NEW YORK, 13

JULY, 1945

19

While they're on vacation...



**You'll
have to collect
that
paper**

Youngsters have done a great job in wastepaper collection. So great that everybody is afraid salvage will take a tailspin while the kids are soaking up summer sunshine. They've earned a rest and it's up to us adults to maintain an even flow of wastepaper all summer. There must be no letdown, for paper supplies some 700,000 war items. There is no lessening of the need since Germany folded, either, as Pacific shipments require far better packing. So let's all pull together, and get every bit of that paper made into boxes headed for Tokyo!



THE *Champion Paper* AND FIBRE COMPANY

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EDITORIALS

IN handling the news of the industry month after month, sometimes you notice events shaping up in one direction or another. Lately we've been noticing quite a number of news stories which appear in our "About The Trade" section, under such headings as "ABC Company Expands," "Doe Printing Plans Litho Dept.," or "New Litho Company is Formed." Perhaps subscribers have noticed a good many such stories in the last year or so.

The general theme of these reports is that more presses or other equipment have been added to existing plants, plans have been announced for expansion, new buildings will be built, or letterpress plants have added or have said they will add lithographic equipment. The comparatively large number of these stories indicates substantial growth of the lithographic industry and provides a clue to management's confidence in the future of the process. The various surveys made over the past year or more also agree that lithography is due for considerable expansion following the war, and the trend is certainly becoming apparent even in the midst of the war.

As business volume is today, and as it will be for some time following the war, according to all present indications, these plants will all have plenty to do. This expansion of facilities will also mean expansion of job opportunities, which will be one of the prime considerations of American business as our armies are demobilized. Larger modernized plants, new lithographic departments and new lithographing companies mean bigger and better competition for existing firms. There will be more litho salesmen going after every order. True, there will be more orders, too, at least for awhile.

But the seller's market in lithography is bound to disappear, and as it goes the industry's salesmen will resume their former important role, doing again with all their might what they once did so well—selling. Creative selling will be needed, bringing in orders where none existed before the salesman applied his brain to the problem.

Yes, in addition to good craftsmen in the shop, the industry will also need good salesmen, capable of uncovering the need for lithography where it

is not apparent, to keep all these new presses rolling for years and years.

ANOTHER trend noticeable from the news of the industry is toward reconversion to a civilian economy. The War Production Board has already revoked the order controlling production and delivery of printing trades machinery. Already at least one equipment manufacturer has released specifications and photographs of a war lithographic product and offered it for civilian purchase, with the qualification that military orders must be filled first.

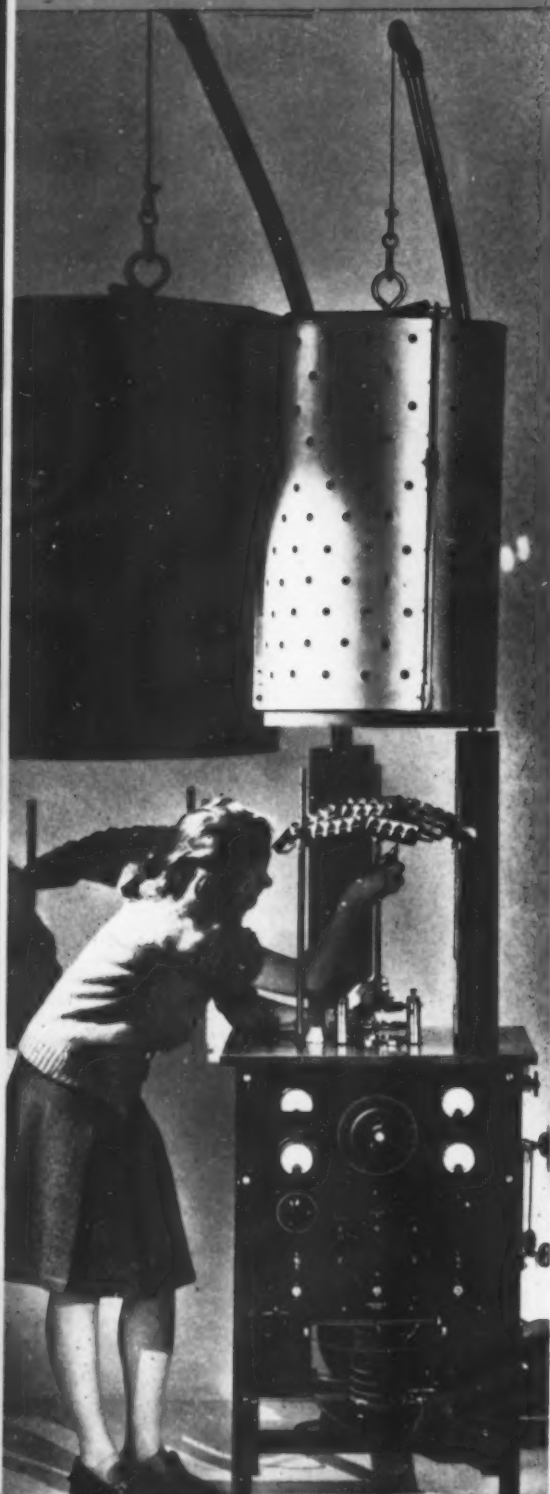
The aluminum situation has been improved for some time and the order controlling the use of aluminum in inks was removed last month. The order controlling copper and zinc in the graphic arts has also been revoked.

All this of course does not mean that you can call up your equipment dealer today and have him send over a new press next week. Rated orders must be filled first, materials must be obtained, retooling must be done in many cases. War Production Board officials say it will be eight or nine months before products which have been completely out of production will be available. But at last we are moving in that direction.

WITH the National Association of Printing Ink Makers and Photo Engravers Research, Inc., launching research programs, the graphic arts industries should benefit in the next few years from improvements in methods, materials and processes. Our own Lithographic Technical Foundation has maintained a strong lead in this field for many years and may be one reason why the photo engravers have decided on a program in the direction of improving their process. What litho ink research has been carried on up to now has been done by the Foundation or by individual ink companies, except in one case where four non-competitive ink companies cooperated in research. Research effort is important in keeping all branches of the graphic arts industry healthy.

Process Lens Coating

By M. N. FRIEND
Chief Chemist
Spaulding-Moss Co., Boston



Coating lenses provides numerous advantages by reducing reflection of light. Here is the theory of coating and how it worked in one shop

ANYONE who has looked in a retail store window has noticed that in addition to seeing the goods displayed, he usually can see his own reflection in the glass. Fortunately the glass does not act wholly as a mirror, but nevertheless a part of the light striking the glass is returned.

The amount of light which is reflected back at us from the display window, or any piece of glass, is a small part of the total light which strikes the glass. The actual amount is dependent upon the refractive index of the glass, the wave length of the light which strikes it, and the angle at which it strikes. When light reaches an average piece of polished glass at 90° to the surface, about 4 per cent is reflected, and 96 per cent gets inside. At the other glass surface, neglecting any absorption within, 4 per cent of this 96 per cent is reflected, the total to emerge being slightly over 92 per cent. Since light energy cannot be destroyed, the reflected portion emerges eventually from some nearby area in the glass.

The modern process lens, being made up of several pieces of glass, can lose a great deal of the light which we furnish it from the copy-board, with a 4 per cent loss at each air-glass surface. If the light were *totally* lost, the situation would be bad enough, but since it cannot be lost, things are even worse! After bouncing around the inside of the lens, part of it emerges and reaches the negative which we are exposing, but not at the point to which the

lenses directed it. Consequently we add a little fog here and there, and our negative is not as contrasty or brilliant as it could be. In a continuous tone or halftone negative we lose shadow detail, while in a line negative we fill the fine details in the copy.

It was over fifty years ago that the first attempts were made to overcome this defect in lenses. In 1892 an English lens designer was amazed to discover that tarnished lenses actually transmitted more light than perfectly clean lenses. He then devoted some time to applying an artificial tarnish to lenses, publishing his findings several years later. Improved methods have been introduced by other workers since that time and you probably remember the publicity in 1939 and 1940 on "invisible glass" which followed the announcements of two major United States laboratories concerning methods of reducing this reflection.

THE ideal non-reflecting coating for glass should be a transparent, colorless, durable, permanent material with an index of refraction related mathematically to that of the glass on which it is to be applied. The ideal thickness of the coating should be one quarter of the wavelength of the light which it is to reflect the least, or about 0.0000036 inch for visible light. Materials which approximate the above conditions have been found, and methods of application have been developed, so that now non-reflecting coatings are being applied to all kinds of optical glassware on a large commercial scale. In a few years every lens above the simple box camera variety, as well as binocular and microscope lenses and prisms, to name some common optical instruments, will be coated as a matter of course.

Evaporator used for coating lenses. The hemispherical glass chamber, hidden by sheet metal reinforcement, is lowered to the table top during the coating operation. The positioning jig, in this case containing binocular prisms, is at the level of the operator's head. Vaporization device is on the table top. (Courtesy National Research Corp., Boston.)

One commercial coating method is the evaporation of a layer of magnesium fluoride on the glass surface. The lens is placed in a chamber containing heaters and the evaporation apparatus. The chamber, in this case a hemispherical glass hood, is placed under extremely high vacuum, of the order of several millionths of an inch of mercury. This vacuum is produced by first evacuating the greater part of the air with a common type of high-vacuum pump, then removing the remainder of the air with a diffusion pump, the total evacuation process requiring twenty minutes or longer. Heat is applied inside of the chamber, and when the proper conditions of temperature and vacuum have been reached, the coating material is vaporized within the chamber. The amount of coating is judged by watching the reflection of an inspection lamp on the surface being coated, the color of the reflected light changing as the coating grows in thickness. As soon as the proper color is reached, the vaporization is stopped and the lens is removed from the equipment. To an untrained eye, a coated lens looks exactly like any other lens, but if two identical lenses are compared, one being uncoated, the difference is immediately apparent even to the novice. The lens does not become completely invisible, as might be suspected, but the surface reflections, by which we "see" glass, are cut down to a small fraction of their former amount.

While the coating process is applied largely to new lens elements, any lens, regardless of age, may be coated. It will usually be found that the outer surfaces of the lens,

having been exposed to all kinds of fumes and vapors, as well as fingerprints and other markings, will be "tarnished" to some extent, and therefore poor reflectors. Coating of these surfaces is not recommended unless repolished, since addition of a coating over the tarnished surfaces will build up a thicker layer than the recommended quarter wave length, and the overall effect will be about the same or possibly worse than the original. Doublets in the lens, two pieces of glass cemented together, may be coated by the procedure described above, but first they must be separated and cleaned, then recemented after coating. This is necessary due to the high temperature employed in the coating process. However, doublets may be coated by a low temperature process without being separated, which leaves a relatively fragile but effective surface. Since doublets are usually inside the lens barrel, they do not need the continual cleaning given necessarily to the outer surfaces.

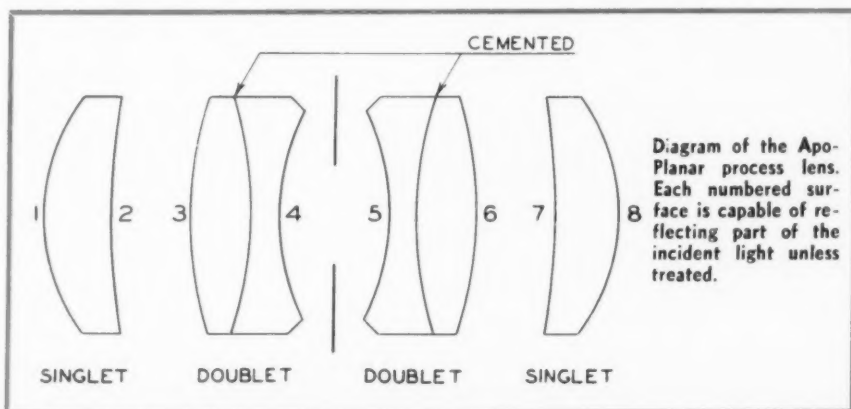
Lenses coated by the high temperature process may be cleaned as easily as plain glass, as long as the usual precautions are taken. No lens should ever be cleaned with anything but a soft cloth or lens tissue, and no liquids other than alcohol, water, or proprietary cleaning fluids should be employed. The same treatments will apply to coated lenses, although it would be well to have the coater recommend specific methods and follow them exactly. Lenses coated by the low temperature process must be cleaned with nothing but a camel's hair brush, and all precautions should be taken to avoid

fingerprints and other blemishes, difficult to remove by this method. The doublets, being on the inside, will be easy to keep clean, so the fragile coating is no disadvantage and much less expensive.

A ZEISS Apo-Planar lens, with a 130 centimeter focal length, in use about 15 years, was coated as described in the preceding paragraphs. This lens consists of two singlets and two doublets, or eight surfaces in all. The inner surfaces of the singlets, and the outer surfaces of the doublets were coated. Before the coating a negative was made of a line drawing at considerable reduction, and the camera was left at this setting while the lens was removed. After treatment the same original was photographed with varying exposures to make a negative which matched the first, and it was found that about 20 per cent less exposure was required to make a duplicate negative. No further tests were made, but the cameraman was questioned periodically about his results, and he reported in a few days that his exposures had returned to about what he had been using before the treatment. He qualified his report, however, by stating that his negatives were definitely sharper than they had been previously.

Tests were then made by comparing line negatives made of screened copy, using a 45 centimeter lens in another camera to make the comparison negatives. Previous to coating the large lens, all such negatives made with it had lacked the necessary sharpness for this type of work. The tests described above gave identical negatives!

Regardless of the type of negatives that are made in a camera, surface coating of the lens is a recommended practice. If continuous-tone negatives are made, and density is the critical factor, the advantage will come in less exposure time. For the photographer of line and halftone negatives, the former type certainly will be sharper, while the latter will come closer than ever to that degree of perfection for which we all strive.★★



BLIND PLATES

By **NORMAN A. MACK** Technical Director, Roberts & Porter, Inc.

ONE of the most puzzling things encountered in our business is a plate that refuses to take ink. This phenomenon occurs both in the plate department and the pressroom and usually occurs without any easily identified reason. Experience has shown that no one thing or formula is the answer to all of the "blind" problems. Therefore, this article is broken down into various parts in order to organize the discussion.

Exposure & Coating— Surface Plates

One of the primary causes of blindness in surface plates is overexposure of the coating, resulting in an image which will not retain its developing ink. Some platemakers, not seeing all of the detail after development, have reasoned that the image was too soft and washed out during development. So the next thing was to increase exposure time which made the situation even worse. Assuming that the coating formula and exposure time were normal for the plant and the job, one of the best checks I know of is to see if the plate will roll up by hand using a roll-up ink or reduced press ink. If you find that you can force the image to take ink, you can generally assume that the plate was overexposed. The next plate you make can be cut roughly about 15 per cent in exposure time.

The second situation occurs when the bichromate ratio in the coating is not carefully maintained. Bichromate is the sensitizer and hardening agent present in either albumin or synthetic vehicles. It is wise to go back and check your mixing of the

formula if results do not show up as desired. Some of the coating batches may vary if there was inaccuracy in the ammonia or bichromate ratio. In this case the exposure time is not at fault. A good idea is to make up a new batch, carefully checking the procedure, and then make a new plate without changing the normal exposure time. To avoid errors in making up a bichromate stock solution, keep a very close Baumé check on the stock solution.

The third situation that can affect the hardness of the finished image is the whirler speed. As humidity increases, the coatings have a tendency to thin out and unless the platemaker can make adjustments in his whirler speed he is apt to whirl his coating too thin, and this will allow the image to become much harder even though the exposure time remains the same. Control over the whirler speed is highly essential for it enables the platemaker to compensate for rise and fall of humidity without changing the basic formula of his coating.

To summarize: The relation of coating and exposure time is the greatest cause of plates being blind or printing grey. The image in a surface plate must be soft enough to absorb the developing ink to provide receptivity for the press ink. If it is not, no amount of tricks can force the image to print as the image itself may be likened to the surface of a piece of glass.

Developing Ink—Surface Plate

Let us assume that the image is ink receptive, then the next stumbling block as far as obtaining an

ink receptive image is developing ink. Inks that lack penetration ability or possess too much drying power and too little greasiness can be detrimental because they block off the affinity of the image for ink.

In many cases, inks that have stood around some length of time or have not been shaken up before using will not penetrate the image and will wash off very easily during development. This fact can fool a platemaker into thinking the image is too soft or too hard and adds to the confusion. In this case wash out the plates under asphaltum to restore the receptivity to the image.

Developing inks that possess too much drying power will harden on the image, thus glazing over and refusing press ink. This condition shows up quite often and the final gumming up is often blamed. The

a discussion of

easiest way to avoid much of the trouble is to get into the habit of always shaking the can before using and in addition pour the last part of the old can into the new one as you use up your supply. This simple habit generally avoids settling out and assures the operator of uniform consistency. The only other thing to suggest is that the cap on the can always be replaced to avoid evaporation of the vehicle.

Experience in judging the cause of plates going blind has shown that if operations have been normal and the usual intensity of color of the image is not what it should be, then the developing ink has not been evenly spread or the ink has been allowed to evaporate or settle out. In many cases this shows up as weak area in the plate or uneven tone in solids. The pressman will find that the only way he can get the plate to print evenly is to wash the plate out straight, thus removing the developing ink that is at fault. Needless to say, this is expensive and should not be the duty of the pressman.

MODERN LITHOGRAPHY

Gumming Up—Surface & Deep Etch

The most frequently blamed thing regarding blind plates is the gumming step. In countless cases, this is true and can be blamed on sour gum, too heavy a gum or a gum thinned out with too much water in the sponge. The introduction of synthetic gum and gums that have been stabilized have helped by eliminating sour gum as the cause. Gum that sours increases its acidity and sometimes undermines the image and developing ink. Sour gum will glaze over the image and block off the press ink from adhering to the image. When this has happened, even washing out the plate will seldom save the image.

In view of the fact that this will occur on either deep etch or surface plates hardly enough can be said

take ink or even wash out after the damage is done.

Coating & Exposure—Deep Etch

Keeping in mind that the coating applied to the plate in the deep etch process at no time carries the image, nor does its hardness or softness have any effect upon the image other than the clarity of the finished image, we can generally skip any blindness difficulty from this source. The primary caution in deep etch systems is to make certain that exposure is sufficient to harden the stencil or coating to resist any penetration of the developer or etch in the non-printing area.

Development—Deep Etch

The most difficult step in deep etch is to develop the image in the large solid areas. Great care must be used to be sure that all unexposed coating

Foundation method of using water to clean and remove any foreign substance from the image area. It is well to remember that all alcohols possess a percentage of moisture and that it is highly important that the image be well dried by paper toweling and fanning. Any moisture remaining in the image will hinder the proper bonding of the lacquer to this metal.

Lacquer—Deep Etch

Anyone who has spread lacquer is aware of the speed with which it dries. This speed is a natural part of lacquer and is the very reason why the cap should always be kept tightly in place. Many blind images can be traced to lacquer that is old and heavy due to evaporation. As evaporation occurs, a greater proportion of solids remain present and the lacquer tends to dry in a very hard and glossy finish, which loses affinity for the de-

of the many factors that may cause blind plates

regarding care in maintaining fresh gum and keeping close check on Baumé. Nor can enough be said regarding care in gumming up a plate whether it is in the platemaking department or the pressroom. Gum should always be smoothed out and rubbed down evenly regardless of its make. Using a heavy gum and a wet sponge is more dangerous than using a thin gum and an almost dry sponge. Proper rubbing down will do more than anything else toward leaving a plate ink receptive.

Placing plates in storage for a period of time greater than a week is dangerous if left under gum alone. In cases where the pressman is days or weeks behind the platemaker, then the plate department should wash the plate out under asphaltum and store away. Moisture in the air will attack the gum and get through to the image, as well as the grain, resulting in scumming plates or a non receptive image. Air has a drying effect on developing ink and if the gum allows air to get at the ink it will be difficult to make the image

is removed from the area to make certain that a clean surface is present for the etch to work upon. Any coating or minute particle remaining in the image area will resist the effort to etch the plate uniformly and provide a poor bond for the basis of the image, which is lacquer.

Etching—Deep Etch

One of the primary causes of blind deep etch plates is over etching or cutting into the metal plate so deeply that the ink cannot be lifted from the plate by the blanket. More care by the operator is necessary for as the humidity increases, the etching activity is greater, and the danger of over etching is greatly increased. In view of the widespread methods used throughout the country there is little need for other suggestions regarding this step, other than a reminder that this is one reason for blind deep etch plates.

Alcohol Wash—Deep Etch

Comment upon this step is as wide and open as any topic in our industry. Many types of alcohol are used as well as Cellusolve and the new

veloping ink. In addition, the lack of the right amount of vehicle also cuts down the ability of the lacquer to bond to the bare image, thus breaking away and shortening the press run of the plate.

Summary—Deep Etch

The subjects of developing ink and gumming up are almost identical in their relation to each platemaking system with this exception, in the deep etch processes, the ink is not as important in its action as it is in surface plates. The lacquer in the deep etch plate carries the image and only when the lacquer is gone has the plate lost its life. Indeed many plants merely develop the plate for checking purposes and then immediately wash the plate out under asphaltum to prevent the drying of the developing ink. Should blindness occur in a deep etch plate, the plate should not be abandoned until it is washed out and rubbed up as the developing ink might be at fault and not the lacquer beneath it.

(Continued on Page 81)

Measuring Grain

A report of research progress to date on analyzing and evaluating litho plate grain

By S. A. SHERIDAN

Armour Research Foundation, Chicago

THE method used for graining metal litho plates is basically quite simple, but the grained surfaces of such plates are extremely complicated in character. Under high magnification the surface of a grained plate looks somewhat like a small-scale reproduction of the Rocky Mountains: it consists of a series of many-sided pyramids which rise to plateaus or to peaks, with the sides and plateaus of each pyramid roughened with innumerable minor peaks and ridges and valleys. The boundaries of the individual grains are irregular and often indistinct. The grains appear to be spaced at random and their shapes are extremely varied.

It is this highly complicated character of grained surfaces that makes the analysis and evaluation of plate grain such a difficult matter. As part of its accelerated program of research and education, announced last fall, the Lithographic Technical Foundation is sponsoring a comprehensive study of plate grain which is being conducted by the Armour Research Foundation in Chicago. The objectives of the study are to learn more about characteristics of the grained surfaces now in use, and to apply this information in seeking to develop improved surfaces. While the study is by no means nearing completion, it is already yielding some highly interesting information.

With the cooperation of Mr. E. G. Carlson, a member of the research committee of the Lithographic Technical Foundation and of the staff of the Harold M. Pitman Company, Chicago, Armour has obtained and examined a sizeable number of grained plates representative of those actually in use in the field. In view of the popular belief that a fine grain is required for proof plates and that a coarser grain is necessary for press work, it was interesting to note that in one plant which furnished samples of its plates, highly successful eight color press work was being turned out on zinc plates having a very fine grain—much finer than the grain on plates which were giving satisfactory service as proof plates in another plant. At still another plant it was

found that proof plates and press plates were quite similar in grain size, and both were yielding satisfactory results.

The first series of measurements made at Armour were measurements of grain depth—the shortest distance from imaginary plane representing the tops of the peaks on a grained surface to a parallel plane representing the bottoms of the craters and valleys. Several techniques were employed. One of them was to measure the over-all thickness of a plate with a mechanics' micrometer caliper, and then to polish the grain off the plate and measure the thickness again. The difference between the two measurements represents the depth of the grain. The polishing was performed by hand on an area of about one square inch of the plate surface, using a folded pad of 1 or 1/6 metallographic paper. The progress of the polishing was followed by microscopic observation to insure that the polishing was not carried too far.

Figures 3 to 8 are photomicrographs obtained at a magnification of 100 diameters during the polishing of the fine-grained zinc plate shown in Figure 1. Figure 3 was obtained by focusing on the peaks of the grain before the polishing was begun. The thickness of the plate at that time was 0.0140". Figure 4 shows the appearance of the plate after the polishing had proceeded to a depth of 0.0001". Figures 5, 6, 7, and 8 were obtained at depths of 0.0002", 0.0003", 0.0004", and 0.0005", respectively. (The white lines in Figure 5 will be discussed

FIG. 1
Surface of zinc plate with fine grain, magnified 100 times.

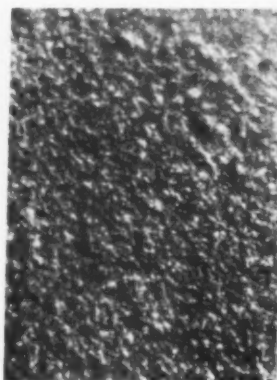


FIG. 2
Surface of zinc plate with coarse grain (not poster), magnified 100X.

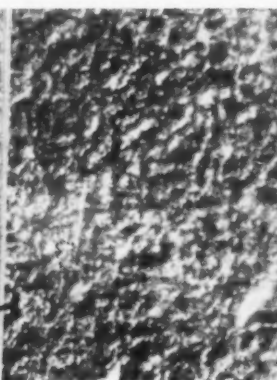


FIG. 3
A 100X enlargement of a photo focused on peaks of grain in Fig. 1.



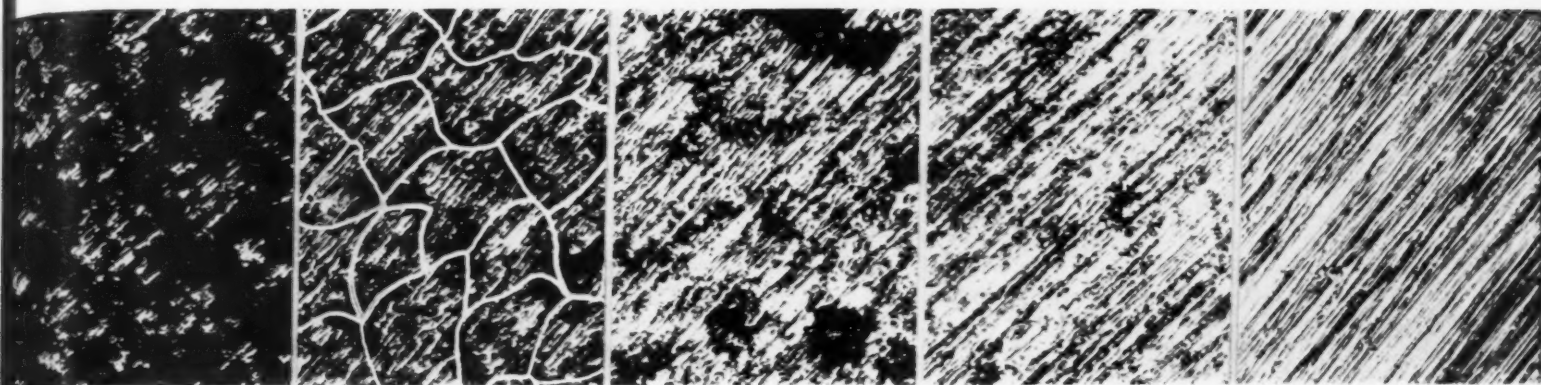


Fig. 4

Fig. 5

Fig. 6

Fig. 7

Fig. 8

Photomicrographs obtained in the course of polishing the grain off the plate shown in Figure 1. Magnification 100 diameters.

later in this article.) Although in Figure 7 some traces of the grain are still visible, in Figure 8 the grain is virtually gone, and the depth of the grain on this plate was therefore 0.0005".

Figures 9 to 18 are photomicrographs obtained in exactly the same way during the polishing of the coarse-grained zinc sample shown in Figure 2. Figure 9 was obtained before the polishing was begun, and the other photomicrographs show the plate after successive reductions in thickness of 0.0001". It is apparent from these figures that the grain depth in this case was 0.0009".

These measurements were checked by the method described in the Lithographic Technical Foundation's Research Bulletin No. 6. A high powered microscope equipped with a calibrated fine focusing screw was focused first on the peaks of the grain and then on the valleys, and the depth of the

grain was determined from the readings of the focusing screw. The measurements made by the two methods were in substantial agreement.

Grain depth was measured in still another way by using photomicrographs showing the grain in profile—in other words, photomicrographs of a cross-section of the grained plate at right angles to the plate surface. The cross sections were obtained by cutting sample portions from each plate and then polishing a side of each sample very carefully to a high degree of smoothness. In order to avoid accidental smoothing of the grain during the polishing operation, each sample was mounted in a transparent plastic such as lucite.

Figures 19 and 20 show profile photomicrographs at 200 diameters of the two zinc plates which appear in Figures 1 and 2. The plate metal in these figures appears white; the black areas represent the lucite in which the samples were mounted.

The depth of the grain as it appears on these photomicrographs was measured with an ordinary ruler, and these measurements were then divided by 200—the magnification used in making the photomicrographs—in order to find the actual depth of the grain. The results obtained were substantially in agreement with those secured by the grain polishing method and the optical focusing method.

These measurements showed that the grain on the zinc and aluminum plates now used by lithographers varies in depth from about 0.0005" for fine grain to about 0.0010" for so-called coarse grain. Poster grain is of course still coarser.

OBVIOUSLY, depth is not the only characteristic of plate grain that deserves study. The size and shape of the individual grains come to mind immediately as subjects for investigation.

Fig. 9

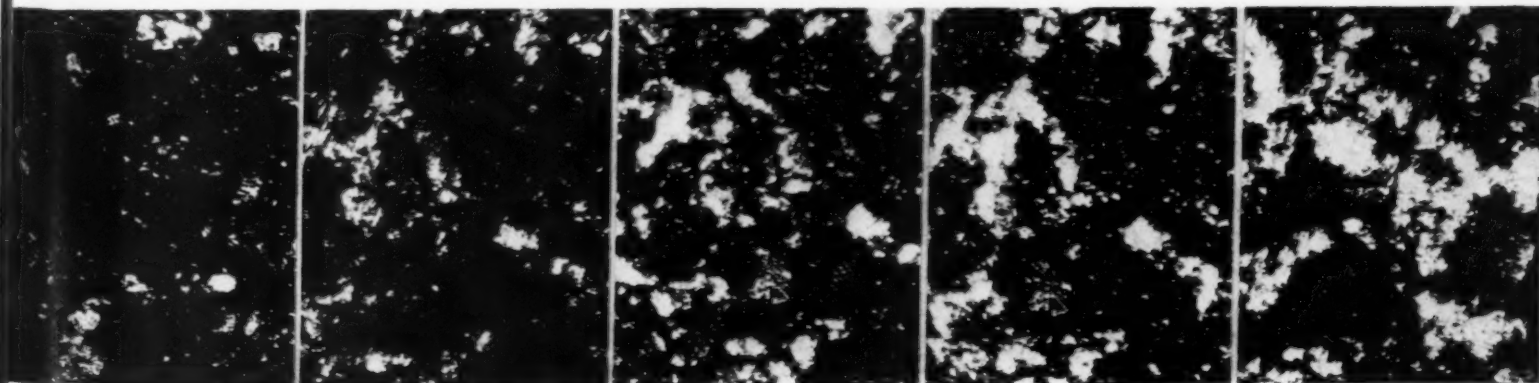
Fig. 10

Fig. 11

Fig. 12

Fig. 13

Photomicrographs obtained in the course of polishing the grain off the plate shown in Figure 2. Magnification 100 diameters.



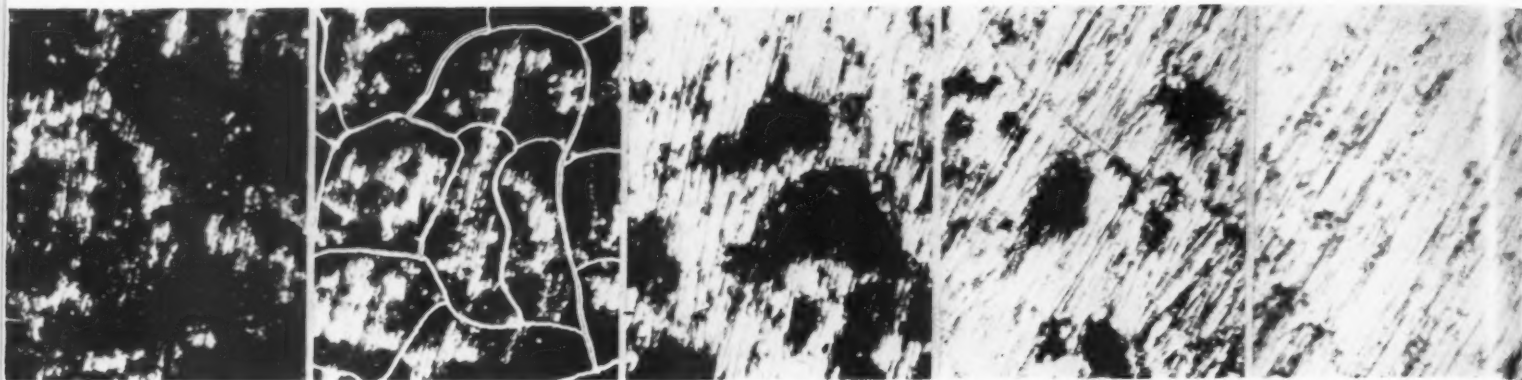


Fig. 14

Fig. 15

Fig. 16

Fig. 17

Fig. 18

Photomicrographs obtained in the course of polishing the grain off the plate shown in Fig. 2. Magnification 100 diameters.

Each *major* peak on the surface of a grained plate can be considered to be a single grain. The boundary of such a grain is naturally somewhat indistinct, just as the boundary of any individual mountain in a mountain range is somewhat indistinct. The craters and troughs which separate the individual grains on a litho plate are of varying depth, and they are generally not continuous. However, a line can be drawn around any given grain, connecting the deepest troughs and craters which separate it from the adjacent grains, and this line may be considered to be its boundary.

The white lines in Figures 5 and 15 show the boundaries of the individual grains appearing in these photomicrographs.

The average size of the grains in these figures was determined by making measurements on the photomicrographs and then dividing by the magnification at which the photomicrographs were made. It was found in this way that for the plate shown in Figure 5, the average base area of each grain was equivalent to the area of a square with sides 0.0023" long. For the plate shown in Figure 15, the grain size was equivalent to that of a square with sides 0.0039" long. On both plates, the width of the base of each grain was about 5 times its depth.

Some idea of grain shape may be obtained not only from Figure 5 and 15, which show the boundaries separating the individual grains from each other, but also from the profile photomicrographs in Figures 19 and 20, which show the grains in cross-section.

tion. These figures indicate that the individual grains on a given plate vary widely in shape.

BUT grain depth, size, and shape do not tell the whole story. The surface area of a grained plate may also be an important factor affecting the usefulness of the plate. The actual surface area of such a plate, taking into account the peaks and ridges and the valleys and craters, is of course quite different from the apparent area obtained by multiplying the length of the plate by its width.

Various methods of measuring the actual surface area are being investigated. One method under consideration, involving the use of ca-

pacitance measurements, has been employed in measuring the surface area of chemically grained aluminum foil used in electrolytic condensers. These measurements indicate that the actual surface area of such grained aluminum foil is 4 to 6 times greater than its apparent area. However, profile photomicrographs of this grain indicate that it is deeper than that on litho plates, and it therefore seems probable that for litho plates the ratio of actual to apparent surface area is somewhat less than 4.

Another factor affecting the usefulness of metal litho plates—a factor of extreme importance—is the condition of the metal surface. When newly exposed zinc and aluminum surfaces come into contact with air they in-

Fig. 19
Profile photomicrograph of zinc plate shown in Fig. 1. Magnification 200 diameters.



Fig. 20
Profile photomicrograph of zinc plate shown in Fig. 2. Magnification 200 diameters.



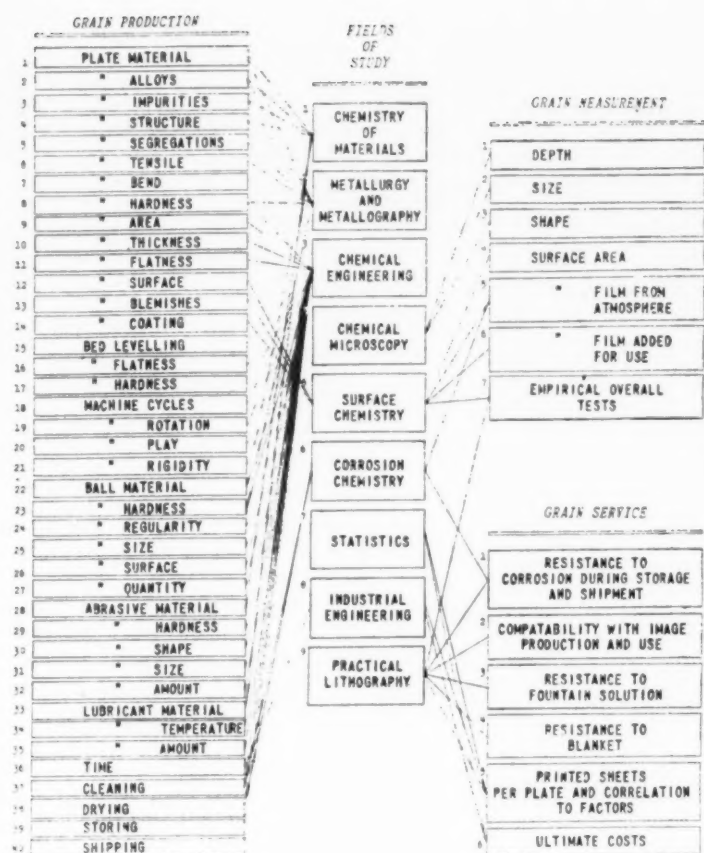


Fig. 21—Overall plan of the study of plate grain.

stantly become coated with superficial oxidized films. Since these films differ from the base metal in chemical composition they also differ in properties. Such films mask the underlying metal and exert a marked influence upon its chemical behavior.

There are certain electrolytic and chemical treatments designed to enhance the properties of these films, such as their capacity to protect the underlying metal from corrosion. Other chemical treatments, such as counter-etching, are designed to remove the films, so far as is possible. However, in commercial practice it is unlikely that counter-etching eliminates them entirely, or prevents them from enlarging later, and it is highly desirable that the relation between the surface chemistry of these films and the usefulness of litho plates should be fully investigated.

Simultaneously with these studies, in which each property of plate grain is being examined separately, a search is going forward for empirical tests which will measure the over-all properties of a grained surface and give

some indication of how it will perform on the press. Ideally, such tests should be simple and rapid, so that they may be well suited to actual shop use. Many such tests are under investigation: dye and crayon marking, plastic replica, spectral gloss, stereoscopic and optical, vacuum retention, and water holding capacity.

A really comprehensive study of grained plates must cover not merely the properties of grained surfaces but also the methods of producing such surfaces. Full provision has been made in the present project for examination of the variables which influence the graining operation.

In all, forty such variables have been selected for investigation. They are listed in the left-hand column of Figure 21, under the general heading *Grain Production*. Their relative importance will be determined by systematic experiments to be performed upon a graining machine which has recently arrived for installation at the Armour Research laboratories.

All this work upon the various properties of grained surfaces and

the variables entering into grain production is being done with one general aim: to find out how to produce the kind of grain that will give maximum service in the plant. The factors by which this service may be judged are listed in the lower righthand corner of Figure 21, under the heading *Grain Service*. Item 6 in the list shows that the factor of costs is not being overlooked.

The middle column of Figure 21, listing the principal fields of study involved in this investigation, gives some idea of the versatility it calls for. Fortunately, the Armour plan of coordinated research permits the assignment of each of the component parts of the investigation to the proper specialist, and at the same time supplies the unified guidance which insures that the efforts of all of these specialists will be exerted toward the same end.

While it is obviously much too early to predict what practical results this investigation will have, preliminary experiments with corrosion-inhibiting surface films show considerable promise. These films were produced by chemical treatment of grained zinc plates, and plates so treated have been tested on actual production runs, under varying shop conditions, in plants in Chicago, Racine, Milwaukee, Minneapolis, and St. Paul. In a number of cases it was found possible to reduce the amount of acid in the fountain water far below the normal level without any impairment of the performance of the plates.

These production tests were made possible by the cooperation with Armour Research Foundation of Mr. Carlson and the individual plants in which the tests were run.

The results of the tests are now being checked carefully. Additional tests will of course be necessary to verify these preliminary observations. Members of the Lithographic Technical Foundation will be kept fully informed, through the Foundation's research bulletins, of all significant developments with regard to these protective films and all other phases of this investigation of grained surfaces.★★



how to rate the jobs in your shop

by GEORGE H. ELLIOTT*

JOB evaluation and wage incentives are so intimately tied up with such matters as labor relations, labor costs, wages, production, methods and so on . . . that the subjects are a natural combination.

Probably many are familiar with these topics, at least in a general way. You know, for example, that job evaluation—as the name suggests—is an evaluation of the job. It should be understood that the individual is not considered in job evaluation—merely the job he does. Later we will discuss merit rating which does consider the individual very specifically.

Every occupation may be analyzed through such factors as education; experience; physical and mental requirements; responsibilities of various types such as that of preventing waste, scrap, damage to equipment or processes, safety, overseeing the work of others; and working conditions.

This sort of analysis has been used very extensively during the past few years and has been widely accepted by both management and employees.

In an industry such as the lithographic, where labor cost is a very important factor in total costs, it seems that this sort of investigation and

analysis should be of considerable importance.

The most commonly used type of job evaluation is the so-called "point system," where a certain number of arithmetical points are used to evaluate various characteristics of a job. The first step is to analyze each job and write a job description. It is generally best to have this done by a trained job analyst, especially in connection with hourly rated jobs or any factory jobs. When the job description has been written it should be thoroughly checked by the department supervisor and understood and agreed to by the operator on the job. In the case of office and various clerical workers it is often satisfactory to merely furnish the worker with a questionnaire to be filled out which, when checked by the supervisor, can then be graded or evaluated by the analyst.

Job evaluation differentiates between jobs requiring a considerable amount of skill and those which do not, those which require a definite amount of education and those which do not, reasonably clean work and that which must be done under dirty, disagreeable conditions. It attempts to develop a definite tie-up between the *quantity* of each factor involved,

with the dollars and cents wage rate paid per hour. It has long been recognized by engineers and others that when wage rates are out of line they are apt to cause more grievances than if they are merely low.

The next step, after the job description, is to arrange jobs in the order of their importance. This is accomplished by the evaluation and shown by the number of points credited to each job. In making these descriptions it is important that there be a full and clear understanding of what each job really is, i.e. the duties that are attached to the title. For example, a photographer—black and white, line—may mean an experienced, skilled operator worth, say, \$50 per week. On the other hand a standardized method might be worked out where high skill is not required (the supervisor supplying this) and a girl of less than a year's experience, may be satisfactory at a base pay of \$30 per week.

This brings up the question of whether to use one of the established manuals in direct or modified form, or to attempt to build up a suitable

* Mr. Elliott is vice-president of Norris and Elliott, Inc., management engineers of Columbus and New York. This is condensed from a talk given by Mr. Elliott at the NAPL meeting in Chicago, May 12.

How a Boston Litho firm analyzed its rates of pay for various jobs and obtained approval for wage increases

manual for your own requirements. Except in the case of a very large concern with a great deal of money to spend for research and development work the latter course would be very impractical.

Practically all of these manuals are in complete agreement as to the four major characteristics to be evaluated, which are—

- Skill
- Effort
- Responsibility, and
- Working conditions.

Some prefer to divide effort into two divisions, physical and mental, and they therefore consider that there are five major factors. I don't think this distinction is important by itself, so long as whatever plan is used is applied consistently and uniformly. In the case of our recent installation in your industry* we used eight factors for the shop work, namely—

- (1) Responsibility
- (2) Skill, Accuracy and Dexterity
- (3) Mental Effort
- (4) Experience and Training
- (5) Mental Requirement
- (6) Working Conditions
- (7) Physical Effort
- (8) Fatigue

Our reason was that we felt this sub-

* Spaulding-Moss Co., Boston lithographers.

division was more applicable to the actual type of work under consideration, whereas we used only the first four in the office work. However it should be noted that the same terms do not mean the same thing in each case. For example, "responsibility" in the shop means care of machinery and equipment; attention necessary to avoid damage in processing and the resultant cost of any damage, or errors, to the company; safety; and supervision. In the office, "responsibility" will reflect the determination of company policy, supervision of the work of others, public relations and general trustworthiness. Naturally the weighting and points allowed are different in each case.

Mental effort is universally tied up with the amount of formal education considered necessary, but should be specifically related to the job requirements as well. For example, it is not sufficient merely to state that the job requires a person who has finished the eighth grade, but it should also be stated that this worker must be able to make out written reports, carry out written instructions, be able to add, subtract, multiply and divide and, if a factory job, set up simple automatic machinery.

It is important that all factors bearing on the job have point values, otherwise some factor that is most important might be overlooked entirely. This emphasizes the desirability of having accurate job descriptions for every occupation in order to eliminate as much controversy as possible. For instance, in a department store at the veil counter a girl with a pretty face would be necessary, which again emphasizes the point that any factor which adds value to the job must be considered.

A review of several different manuals indicates considerable variation in the point values assigned to the four major characteristics. Skill may represent from 45 per cent to 55 per cent of the total points; responsibility from 16 per cent to 25 per cent; effort from 10 per cent to 16 per cent; and working conditions 15 per cent to 25 per cent.

Great care must be exercised in

assigning point values to various characteristics—and this raises the question of who shall decide what the weighting of the factors is to be. We have found it best to have a committee composed of management, employees, and our engineer as the third party, or chairman, to decide upon such matters. Two or three representatives from each group are generally all that are necessary.

In the case of our recent installation in your industry we had one management representative, the engineer, and two shop or labor representatives but with a single vote. A form of job description and evaluation was developed, job descriptions written and submitted for approval to the supervisor and committee. (If there is a union the procedure should be fully explained to them in order that they may cooperate in the program, otherwise serious difficulties and misunderstandings might arise.) The jobs were then evaluated, the evaluations checked by the committee, and plotted on squared paper which used as the horizontal scale the number of points, and as the vertical scale wages in cents per hour for the factory, and dollars per week on a separate chart, for the office. These are what we call "scatter diagrams." (See Page 66.)

A trend line is drawn through the central section of the points and, theoretically, represents the correct relationship between wages paid and the point value of each job. Then when you plot the wages paid various employees, or occupations, it is possible to determine which jobs are paid too much or too little. Generally a normal deviation of 10 per cent is considered desirable to allow for recognition of the individual worth of each employee within his rate range. Some companies take the view that the number of points fixes the employees' wages, but they are in the minority, most concerns feeling that individual work should be compensated accordingly. For example if a pressman is rated at \$1.50 per hour you may logically take the stand that not all employees on the job are worth

(Continued on Page 66)

Litho Improvements Today and Tomorrow

By WILLIAM H. WOOD*

*Research Director
Harris-Seybold-Potter Co.*

THE art and science of lithography is in a particularly fortunate position among the photo-mechanical processes since it alone is exclusively chemical in nature. Developments in the science of chemistry are applicable to many of the processes involved in lithography. Because of the stimulus of the world conflict on various branches of science, lithography will certainly benefit during postwar days. For example, tremendous strides have been made in metallurgy which will result in improved lithographic plates and machinery. Real advances have also been made in lighting. Developments in the photographic field have been no less startling. We will have color emulsions and improved silver halide emulsions resulting in photographic quality never before obtainable.

While we are awaiting the practicable application of many of these developments, there are a number of chemical principles which can be applied in any shop, which lead to improved printed results. For instance, cleaning fluids used on filters, vacuum frames, halftone screens and the like as well as lenses and dark-room safe lights will result in improved photography, and a good photographic halftone negative or positive is the real basis for a high quality printed sheet. Photographic emulsions should be stored away from

high heat and high humidities which generally prevail in the average process darkroom. Photographic developers should be compounded frequently in order to have them as fresh as possible for use.

Efforts should be made to secure the best possible plate metal alloys whether of zinc or aluminum. It is known, for example, that lead, silver and gallium adversely affect the performance of a lithographic plate, especially a zinc plate. The presence of magnesium and manganese are favorable in an aluminum plate. It is wise for the platemaker to segregate those plates which give unsatisfactory printed results in the pressroom. Better still would be the principle of buying plate metals to specification. This would enable a lithographic shop to secure reliably constant alloy plates.

Counter etches and plate cleaning solutions may be improved by the inclusion of hydrous adsorbent materials, such as the hydrous silicas and hydrous aluminum oxides. Pre-etches which lay down a good molecular film of gum arabic are worthwhile especially in hot humid weather. They are of value in securing easier development of an albumen plate or a plate prepared with one of the various synthetic coatings now on the market.

* Abstract of paper presented before the Litho Club of New York, May 23, 1945.

Albumen and gum solutions may be preserved with the substituted parahydroxy benzoates, with thymol, or with related materials such as chlorocavacrol.

Developing inks may contain very small percentages of oil soluble wetting agents and they may be diluted with oxidized unsaturated compounds such as alpha-pinene. Lacquers for deep etch and surface plates should be of film forming types. These are definitely better than the rubbed-down types which may tend to form discontinuous films.

Deep etch coatings should be plasticized to prevent cracking with consequent fine-line scumming on the press. Organic plasticizers such as the polyglycols are suitable if used in small quantities and the inclusion of a hygroscopic dichromate, such as sodium dichromate, will be of assistance in preventing this cracking on the photo-composing machine during hot dry weather.

Fountain solutions for the press should be buffered to take care of changes in acidity caused by constituents in the printing ink or other causes. A combination of nitrates and ammonium phosphates in the proper quantities will accomplish this. A pH of 4.6 is very satisfactory for albumen although more acid solutions than this may be used safely on deep etch plates if required.

Although many of our lithographic chemicals, materials, papers and inks are not of pre-war quality, it is probably true that since the European war has ended, materials will improve in quality very soon. With this improvement in quality will come new developments in addition to those mentioned previously.

Obviously, there will be new presses on the market. Changes in the dampening system will be inevitable. Rollers and blankets of synthetic rubber or plastics having qualities superior to those now in use will be available. These may be made of such things as chloro-styrene rubber, or a plastic material having many of the characteristics of rubber such as nylon or plasticized polyvinyl butyral
(Continued on Page 73)

MODERN LITHOGRAPHY

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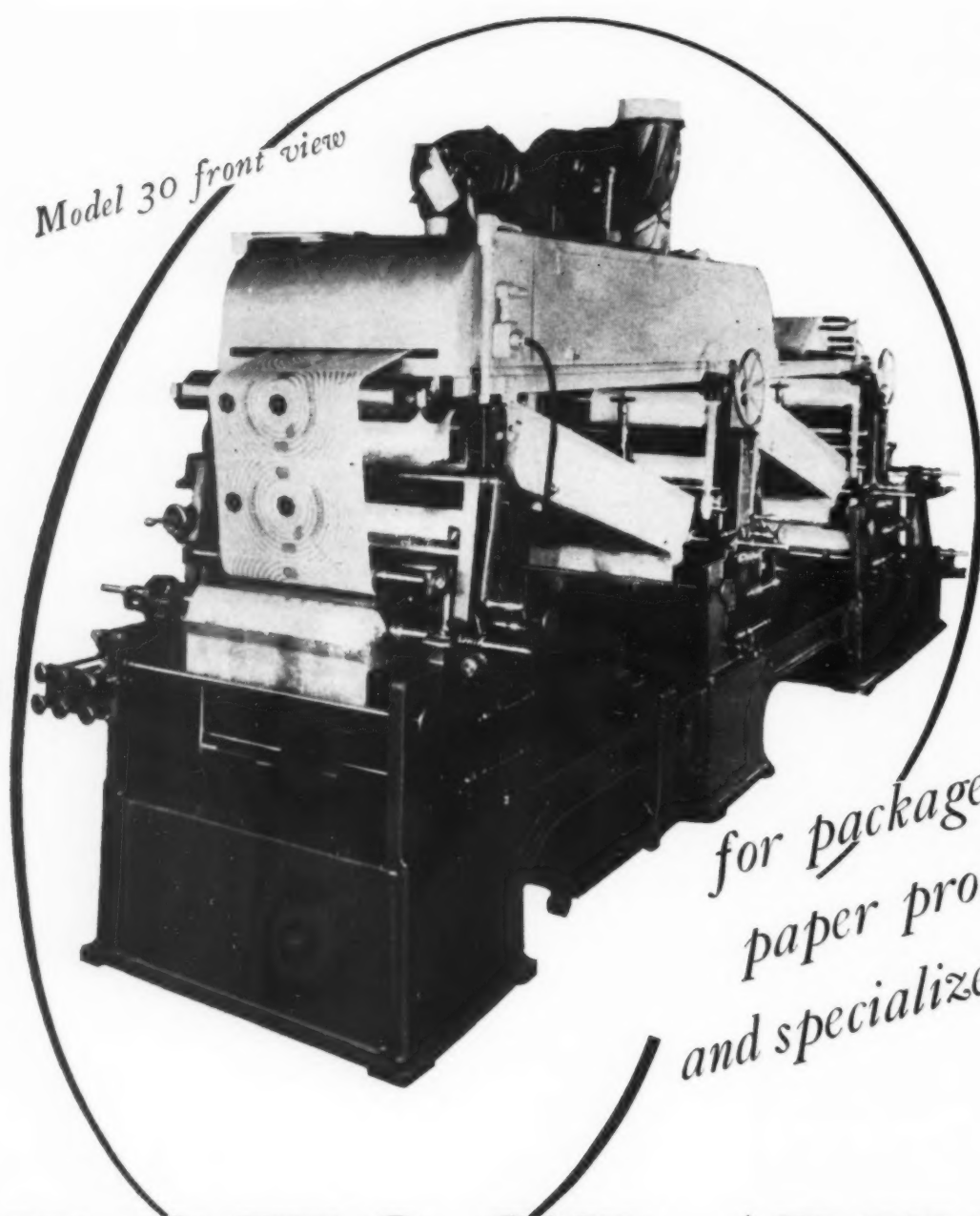
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. . . . The Control of Oxidation on Zinc

by

CAPT. MICHAEL H. BRUNO

Corps of Engineers
Research Officer, Army Map Service

(In the two previous installments of this article, published in May and June, Capt. Bruno described in detail the Cronak process of chemically treating zinc lithographic plates to produce "phenomenal results" in resistance to oxidation, even in the tropical climate of the Pacific. Formulas, a step by step description of the process and comprehensive discussion of all phases were included. In the present installment the Army's exhaustive tests of plates treated with the process, are described. The process is controlled by New Jersey Zinc Co., 160 Front St., New York.—Ed.)

PART 3

AT the start of this investigation, the corrosion resistance of the Cronak treatment was an established fact from its extensive use by the Army and by industry for the protection of zinc coated parts and equipment. In testing its compatibility with the lithographic process, however, there was considerable speculation as to what effect the hexavalent and trivalent chromium in the coating would have on bichromated albumin. Questions considered included whether or not the chromium compounds would exert a hardening action similar to the arc-light exposure of the plate sensitizer, making it difficult to develop the plates, or whether they would upset the desensitizing balance of the etch and cause a general hypersensitivity of the plate for grease or scum. Either of these effects would render the process entirely unsuitable for lithographic use.

Consequently, the tests were made with an extremely critical eye for any sign of an appearance of these

defects. Although many things happened during the tests, in no case did any fault develop which could be attributed directly and consistently to either of these defects. Test after test has definitely proved the compatibility of the Cronak Process with lithography. In fact, it appears to have made the first real and significant contributions to zinc lithography in many years. In addition to eliminating oxidation troubles, it has actually simplified the lithographic process and improved its quality.

Simpler Lithography

Two simplifications in the lithographic process are possible.

1. Since no oxidation can form on the treated plates, counter-etching is unnecessary unless oil or grease is on the plate. Ordinary dirt can be removed by water and scrubbing with a brush but a counter-etch is needed to remove grease. The regular counteretch (1 oz. of hydrochloric acid in one gallon of water) does not dissolve the coating although it may leach out some of the hexavalent chromium. Even after counteretching, however, sufficient coating is left on the plate to protect it throughout the remainder of the process.

2. Gumming the plates on the press during short stop-overs is unnecessary. The main reason for gumming an ordinary plate when the press stops is to reduce the chances of its oxidizing. Since the possibility of oxidation is eliminated by the Cronak treatment, this troublesome operation

can be dispensed with. However, even treated plates should be gummed on long stop-overs (over 30 minutes) because the ink on the image might seep or spread into the surrounding non-printing areas, causing the work to thicken. A coating of gum arabic over the plate prevents such a seepage.

These are significant advantages but the most important value of the Cronak Process in lithography is the improvement in the printing quality of plates treated by it. The coating has all the properties a good lithographic plate should have. The surface is continuous, homogeneous, tenacious, and inert. In addition, it has an excellent affinity for *both water and ink*. A bichromated albumin image on this surface appears to be firmer and less destructible than even a deep-etch image. In addition, all the regular lithographic etches readily and completely desensitize the non-printing areas of the plate. In fact inasmuch as the coating has such a good affinity for ink, it is believed that deep etch processes could be simplified and shortened by the elimination of the deep-etching operation.

Properly coated, exposed, developed, and etched plates retain maximum fidelity of image quality on the press with minimum effort. Line widths and dot sizes are reproduced faithfully over the entire run with no perceptible thickening or sharpening of the image. Furthermore, this quality can be maintained even



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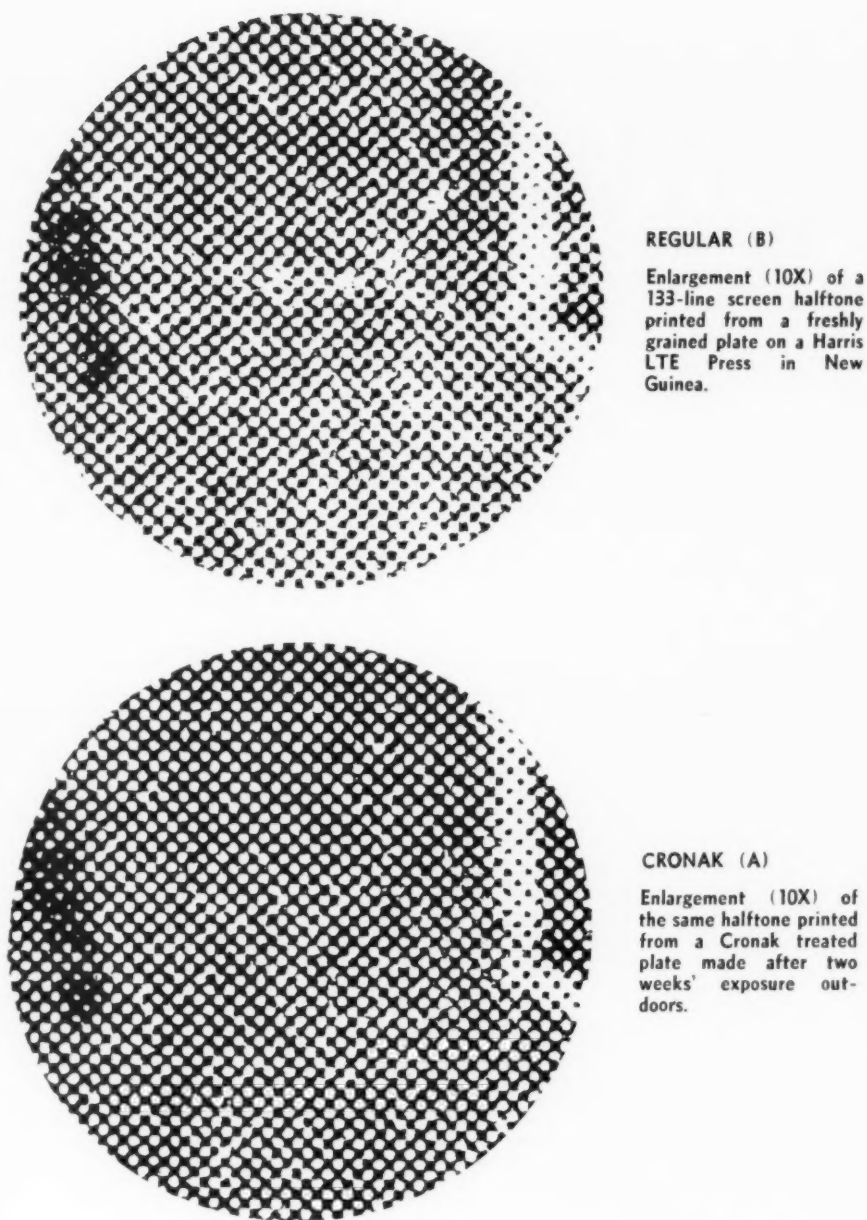


Figure 4

under normally adverse printing conditions such as high temperature and humidity and moderate mistreatment of the plates on the press.

A rather spectacular example of the improved quality possible with the Cronak treatment is illustrated in Figure 4. (A) and (B) are 10X enlargements of the same area of the same 133 line halftone printed from a treated and an untreated plate. The printing was done in New Guinea under the normal tropical conditions of high temperature and humidity. (A) was printed from a plate which was treated with the Cronak solution immediately after graining and

exposed outdoors for two weeks. Without counteretching, the plate was coated with bichromated albumin, exposed, developed, etched, gummed, and printed on the LTE Harris press. (B) was printed from a freshly grained plate on the same press. The difference in quality between these prints is amazing. (A) has a smooth texture indicating a strong, even and full-bodied image; (B) is weak and irregular with definite signs of image breakdown or erosion. The poor showing of (B) is undoubtedly due to oxidation from extremely adverse printing conditions. But the same conditions ex-

isted during the printing of (A).

The improvement of quality in this case can be attributed almost completely to the elimination of oxidation effects by the use of the Cronak treatment. Under adverse printing conditions the effects of oxidation are obvious and any treatment which reduces oxidation would be expected to improve quality. Yet, the Cronak treatment effects a noticeable improvement in quality even under presumably ideal printing conditions in an air conditioned plant. Figure 5 illustrates this. (A) and (B) are 10X enlargements of the same area of the same 200-line halftone printed at the Army Map Service. (A) was printed from a Cronak treated plate and (B) was printed from a freshly grained plate. Note the difference in smoothness and regularity of dot sizes in the two printings.

The improvement in quality in this case is not as obvious or spectacular as in Figure 4 but it is appreciable. It is generally admitted that oxidation is not a factor under such ideal printing conditions. And yet, a treatment whose main function is the elimination of oxidation actually improves quality! Part of the explanation is simple if *notions* about lithography are discarded and only facts are considered.

Lithography is a chemical process and zinc is a very active metal. Even under ideal printing conditions, a zinc plate is exposed to the action of many chemicals such as those contained in the fountain solution, ink, paper, blanket, etc., in addition to corrosive elements in the air. Because of its activity, the zinc reacts with some of these substances and is oxidized. While this oxidation may not be perceptible even on close examination it is sufficient to change the characteristics of the metal. It is this unpredictable behavior which contributes to most of the troubles, faults, and defects observed in the use of zinc in lithography and which are corrected to a great extent by the use of the Cronak treatment.

However, the Cronak treatment appears to provide benefits beyond those which can be attributed strictly



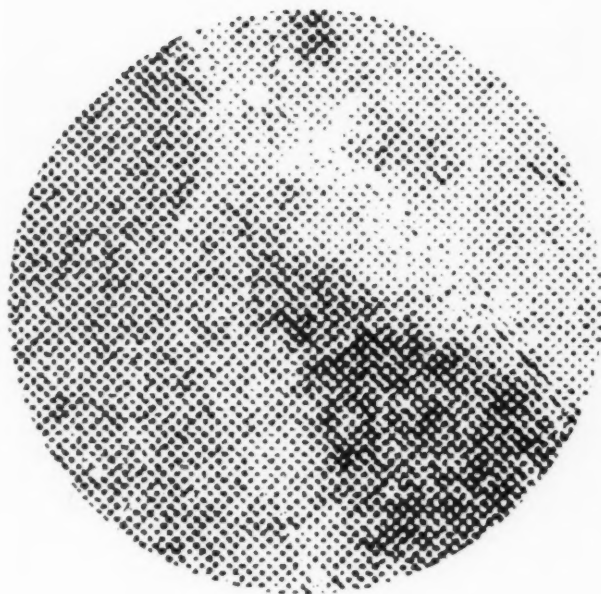
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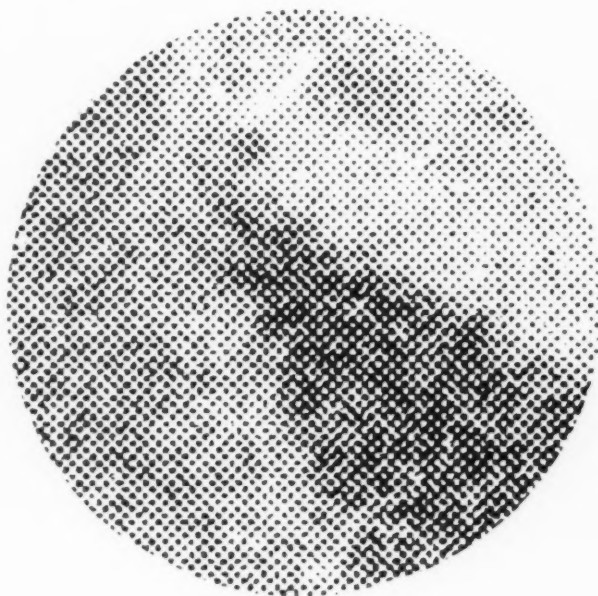
MODERN LITHOGRAPHY





REGULAR (B)

Enlargement (10X) of a 200-line halftone printed from a freshly grained plate at the Army Map Service.



CRONAK (A)

Enlargement (10X) of the same halftone printed from a Cronak treated plate at the Army Map Service.

Figure 5

to the elimination of oxidation. Properly made Cronak treated plates have withstood deliberate abuse on the press which would usually ruin an albumin plate. Such abuse included strong counteretch, etch, and fountain solution on the image, wet-wash with spirits of turpentine, followed by strong counteretch and etch over the bare image, overpressure on the ink and dampening rollers, etc. In no instance could the image be destroyed; in several cases the desensitizing action of the etch was affected and caused scum. The image appears to be much tougher than an ordinary albumin image and

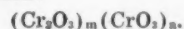
it is bonded to the metal as firmly as any deep-etch image should be.

It is believed that the actual composition of the Cronak coating is responsible for this phenomenon. The fact that the composition of the Cronak coating is similar to the product resulting from the action of light on a bichromated colloid is considered more than just a coincidence. According to most authorities⁸ bichromate in the presence of a colloid like albumin, casein, gum, glue, gelatin, etc., is reduced by light

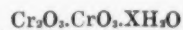
(8) R. F. Reed and P. W. Dorst "The Albumin Process of Photolithography" Lithographic Technical Foundation, Research Bulletin No. 6, P. 25.

C. B. Neblette "Photography, Principles and Practice" 4th Edition, P. 663.

to a substance of the following general formula:



This is a chromium chromate containing an unknown number (m) of trivalent chromium units combined with another number (n) of hexavalent units. The Cronak coating is a basic chromium chromate (see Chemical Properties) with the formula:



Examination of the two formulas shows that the Cronak coating is actually a special case of the light hardening formula when m and n are both equal to 1 and the compound is hydrated with X molecules of water (H_2O).

When a Cronak treated plate is sensitized, the bichromated albumin is adsorbed by the basic chromium chromate of the Cronak coating. There appears to be no reaction between the bichromate and the coating until exposure. On exposure to light through a negative, the albumin in the image areas is hardened. This hardening results from the action of the light on the bichromate as it is reduced to chromium chromate. Because of the similarity between the coating and this compound there is a possibility that they are mutually absorbed or fused together to make the image, Cronak coating and metal an integral unit. Such a combination or fusion would account for the strength and stability observed in the image on the Cronak treated plate. There is no definite experimental evidence to substantiate this theory but it is the most logical explanation which can be presented at this time for the improved behavior of Cronak treated plates (beyond that expected from the control of oxidation).

This theory seems so plausible that research has already been started on the conversion of aluminum plates to a similar type of surface. If the theory is correct, it is believed that a basic chromium chromate surface on aluminum will control the activity of the metal, improve its affinity for ink, and reduce its tendency to sharpen the image. Such results would be adequate substantiation for this theory and should lead to a

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general improvement in the industry.

Corrosion Resistance Tests

During the course of the research on the application of the Cronak Process to lithography a number of printing, weathering and accelerated corrosion tests were made not only to determine the compatibility of the process with lithography, but also to check the relative effectiveness of different coatings and the latitude permissible in the use of the treatment. Representative samples have been selected from the weathering and corrosion tests and are presented for those interested.

The purpose of the first tests was to determine the relative weathering properties of treated and untreated

plates. Three full-sized Cronak treated press plates were placed on the roof of the Army Map Service on 31 July 1944. At the end of three days the press plates and one panel of each type were removed. During this three day period, rain fell for 28 hours and during the remainder of the time the weather was hot with temperature approaching 90°F and humidity near 90 per cent. The rest of the panels were left on the roof for a total exposure of 14 days. The weather during this period was similar to that for the first three days. The conditions to which these plates were exposed can be considered as "near tropical." They certainly were as severe as any condi-

tions which might be encountered in this country and approach closely the conditions prevalent in tropical regions.

The panels used in the weathering tests are illustrated in Figure 6 and results are described in Table V. The

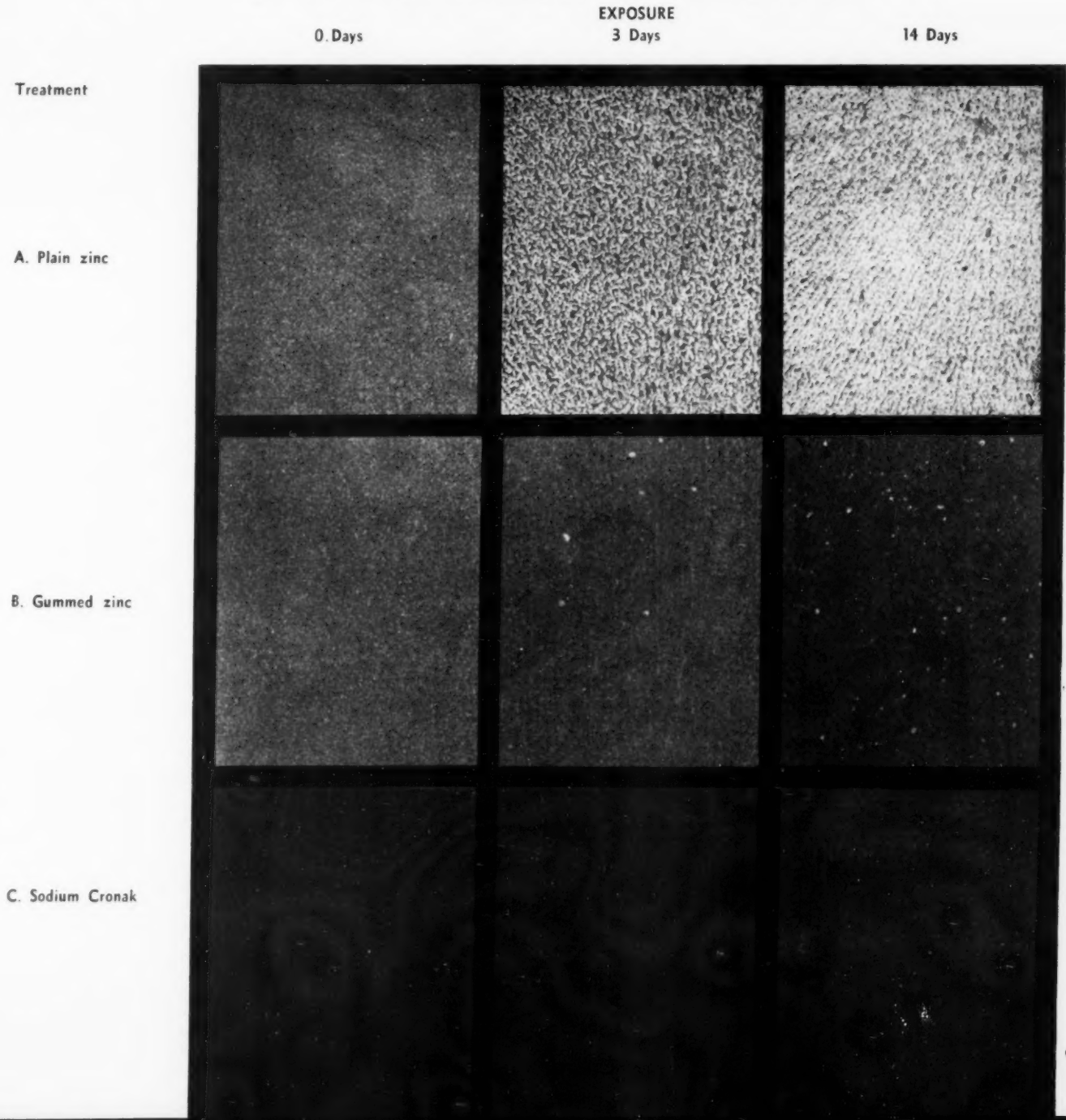
TABLE V
Weather Exposure Tests
(Washington, D. C., 31 July —
14 August, 1944)

Treatment	Days Exposed		
	0	3	14
None—Plain Zinc	5	0	0
Gummed Zinc	5	3	1
Sodium Cronak	5	5	5

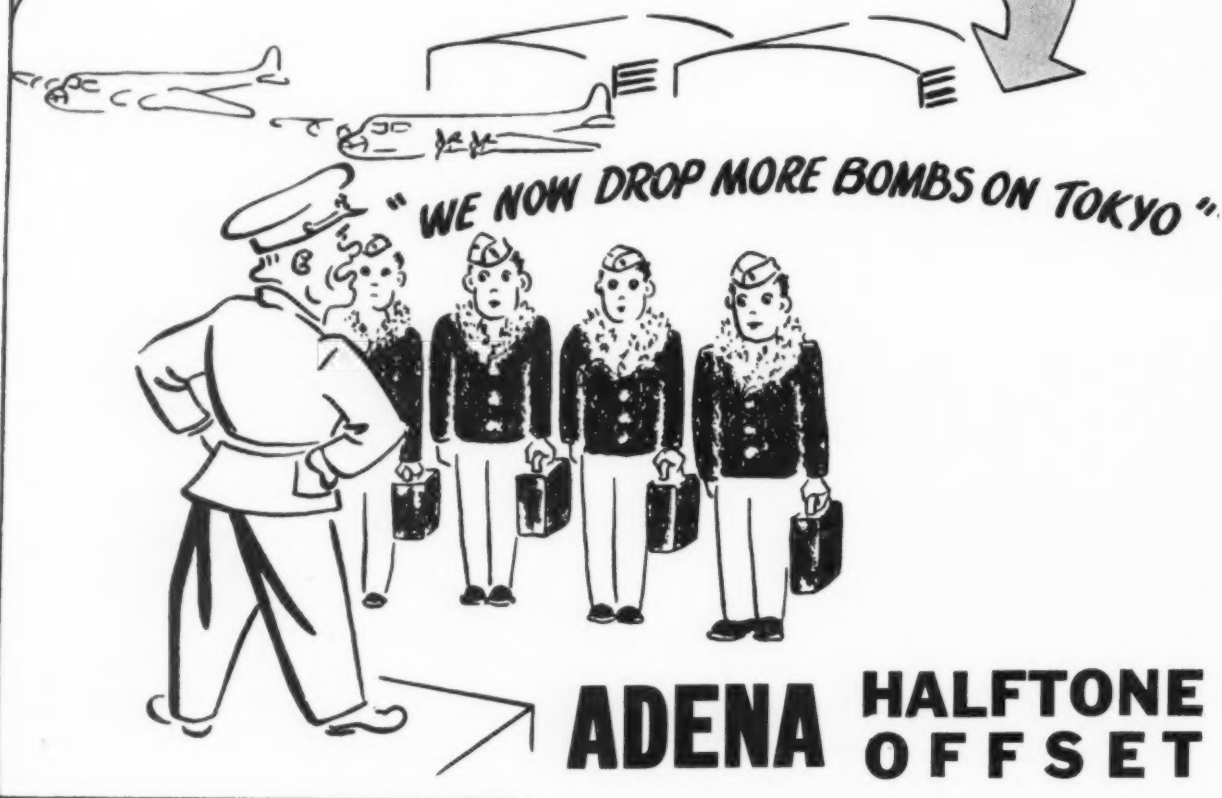
5 = no corrosion
4 = traces of corrosion
3 and 2 = more extensive corrosion
1 and 0 = heavy white corrosion products

Cronak treated plates which were exposed for three days were used in

Fig. 6—Weathering Tests, Washington, D. C., July 31-Aug. 14, 1944



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regular production with unexposed Cronak treated plates. Absolutely no difference in printing behavior was noted. This proved conclusively how effectively the Cronak treatment inhibits oxidation because the same exposure completely ruined plain and gummed zinc.

In view of the length of time consumed by weathering tests and their uncertainty due to a dependence on the weather, it was decided to use accelerated corrosion methods on the remaining tests. The Salt Spray Test is recognized as one of the best and most consistent of these accelerated corrosion methods. This test is described in detail in Federal Specifications TT-P-141A, page 85. Briefly,

it consists of a spray of a 20 per cent sodium chloride solution at 95°F in a closed space. While this test is used extensively to determine the corrosion tendencies of metals, no accurate relationship has been established between the time in the test chamber and the length of exposure to actual weathering conditions. However, sufficient evidence has been gathered to substantiate the assumption that actual weathering conditions affect metals in a manner similar to their relative behavior in this test.

Figure 7 and Table VI show the results of salt spray tests on untreated, gummed, and etched and gummed zinc for exposure of one

hour and four hours. It is interesting to note that etching and gumming the zinc immediately after graining gives good protection after one hour in the salt spray chamber whereas the untreated and gummed zinc are completely useless.

TABLE VI
Salt Spray Tests on Zinc Plates

Plate Tested	Hours Exposed		
	0	1	4
Untreated	5	2	0
Gummed	5	3	0
Etched and Gummed...	5	4	3

5 = no corrosion

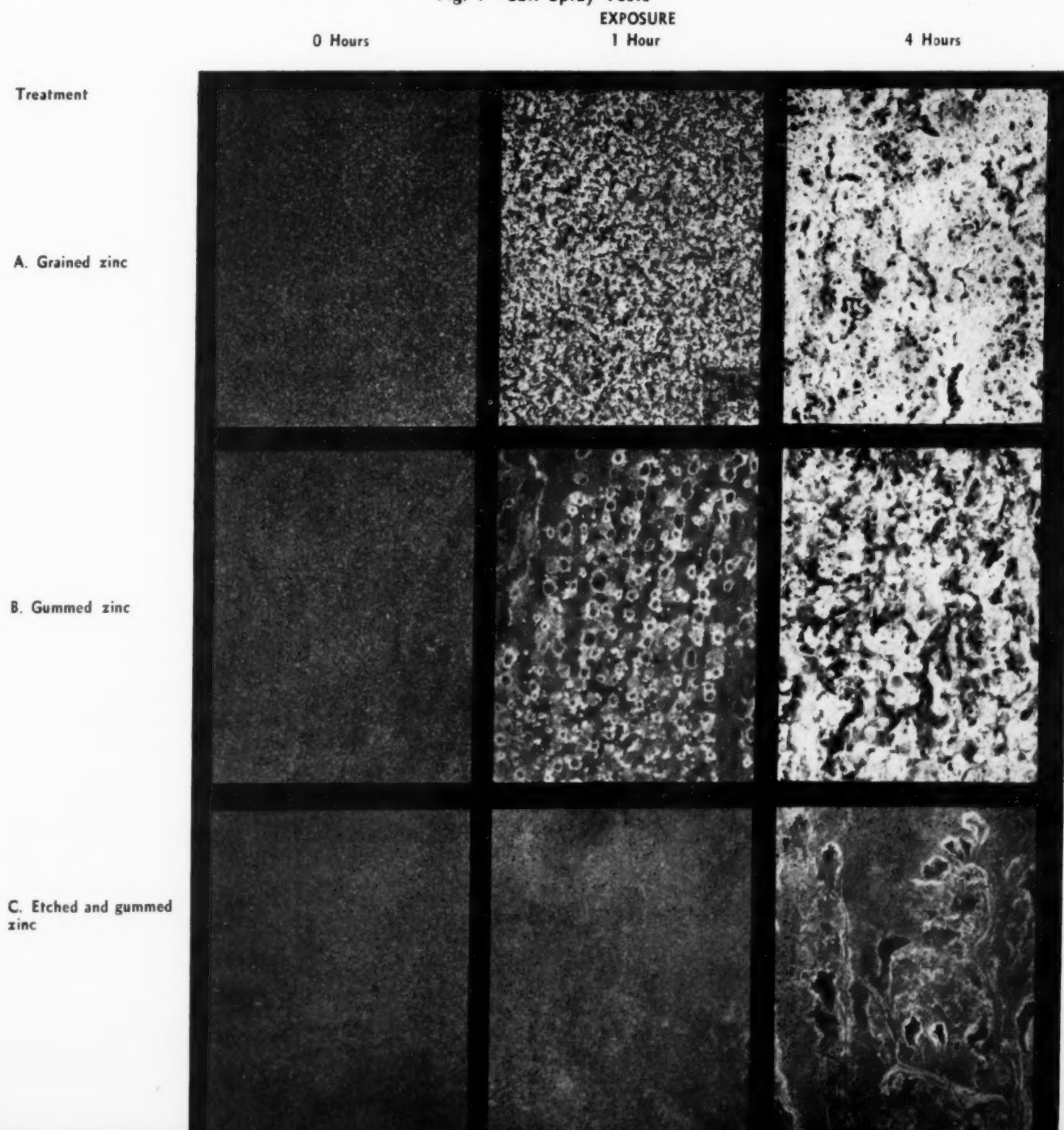
4 = traces of corrosion

3 and 2 = more extensive corrosion

1 and 0 = heavy white corrosion products

Figure 8 and Table VII show the results of similar salt spray tests on grained zinc panels treated with

Fig. 7—Salt Spray Tests



HARRIS

Litho Asphaltum

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ONE of the most essential requirements of the lithographer is a protective medium for the image. This protective medium must make the image ink receptive—avoid spreading as a grease would spread—and retain this ink receptivity even when stored for long periods of time. It must also repel the action of the fountain etches while getting started on the press.

Over the years many protective mediums were tried. Those that protected the image satisfactorily were not always sufficiently ink receptive. Asphaltum best met the requirements for this purpose but it also had a drawback. It was soluble in the solvents contained in the ink and completely disappeared from

the image after a very few impressions were pulled.

Harris Litho Asphaltum, one of the first products developed by the Harris Laboratories, is used in every place in lithography where ordinary asphaltum is used. It spreads readily—is ink receptive—and is resistant to the solvents in the inks and to the acids used in the fountain.

Furthermore, Harris Litho Asphaltum dissolves the ink on the image more readily than turpentine or similar solvents—thereby eliminating a step in the usual procedure which requires washing off with turpentine and then applying asphaltum.

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C L E V E L A N D 5, O H I O

Cronak solution mixed with sodium bichromate and ammonium bichromate. The exposure times in the chamber were increased to 8 hours and 48 hours. Also included in the test was a panel of grained aluminum. This test shows that the Cronak treatment provides better protection against oxidation after 48 hours in the salt spray than aluminum.

TABLE VII
Salt Spray Tests on Aluminum and Cronak Treated Plates

Plate Tested	Hours Exposed		
	0	8	48
Sodium Cronak Treated	5	5	4
Ammonium Cronak	5	5	4
Aluminum	5	5	4
5 = no corrosion			
4 = traces of corrosion			
3 and 2 = more extensive corrosion			
1 and 0 = heavy white corrosion products			

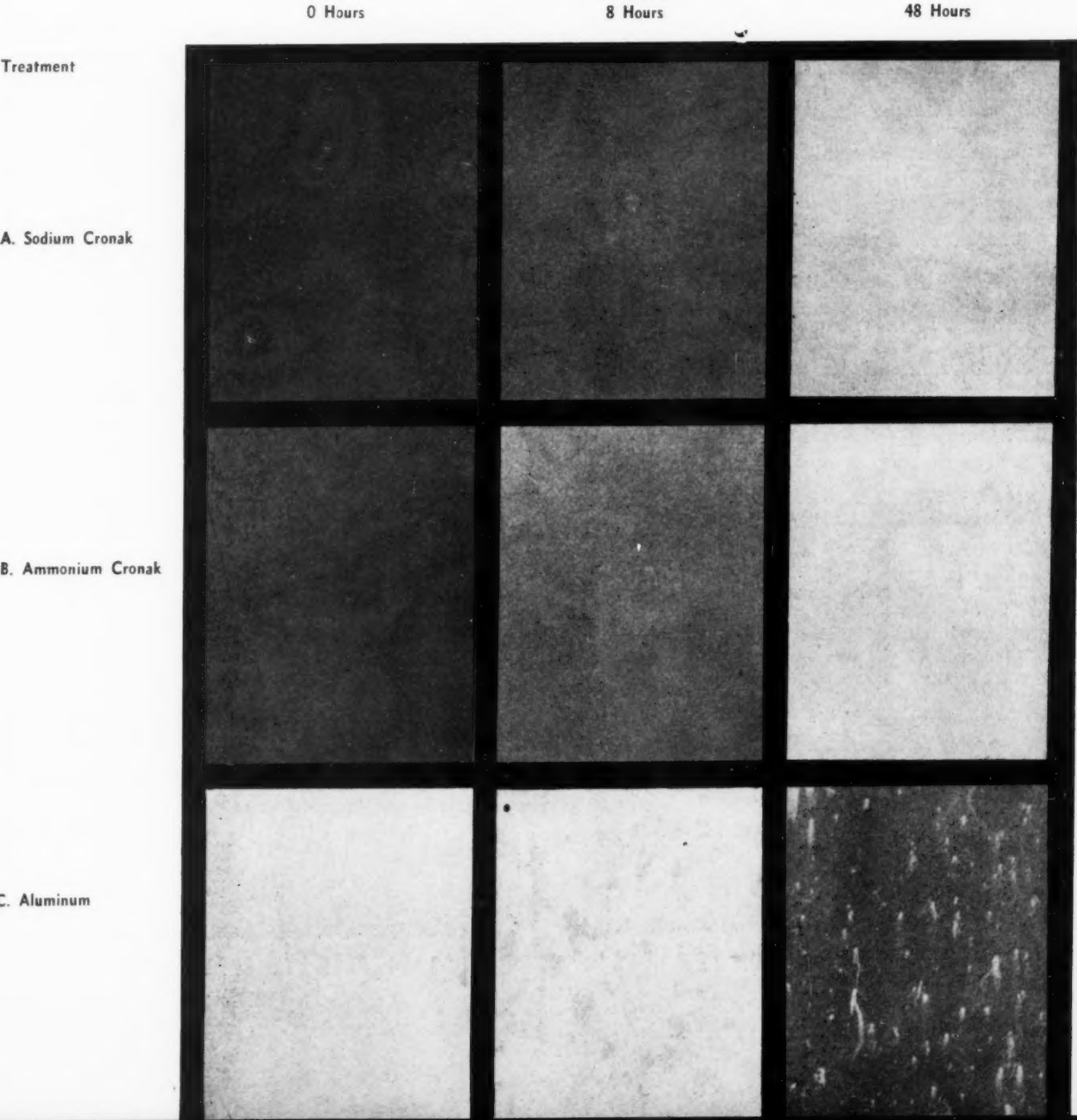
According to Anderson and most users of the Cronak Process, maximum effectiveness of the coating is achieved with solution and washing temperatures between 60°-80°F. Such a limitation would impose a serious restriction on the use of the process in the field because temperature is one of the most difficult conditions to control. Exhaustive tests were made with the Cronak treatment using dipping and washing temperatures from 40°-110°F. Results showed that while there was considerable variation in the color of the coatings, all appeared to provide the same amount of oxidation protection in the salt spray test up to 48 hours exposure. The results of these tests are tabulated in Table VIII.

TABLE VIII
Salt Spray Tests Showing Temperature Latitude of Cronak Treated Plates

Treatment	Hours Exposed		
	0	8	48
Dipped at 40°F.—			
Rinsed at 40°F.	5	5	4
Dipped at 40°F.—			
Rinsed at 110°F.	5	5	4
Dipped at 110°F.—			
Rinsed at 40°F.	5	5	4
Dipped at 110°F.—			
Rinsed at 110°F.	5	5	4
5 = no corrosion			
4 = traces of corrosion			
3 and 2 = more extensive corrosion			
1 and 0 = heavy white corrosion products			

(Next month we will publish a series of brief reports from overseas lithographic units which have used the Cronak process for lithographic plates, and which have found that it enabled them to produce lithographed maps and other material under conditions that would have been extremely difficult if not impossible otherwise.—Ed.)★★

Fig. 8—Salt Spray Tests
EXPOSURE



HOW TO SELL "Particular" PAPER BUYERS*

**And, as You know, there are Plenty of Them.*

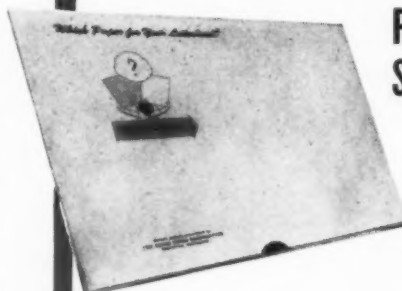
● Many printers, lithographers, engravers and paper merchants are satisfying "particular" paper buyers by pointing out the virtues of rag-content papers. They start with the prospect's letterhead. If he isn't using an all-rag paper, they recommend Fox River Anniversary Bond. The crisp, clean, brilliance of this paper is immediately apparent . . . a prestige builder. Further, actual proof of this superiority is shown the prospect in our "See for Yourself" kit, a folder which clearly demonstrates the difference between 100% rag and 25% rag-content paper.

● The prospect is now shown the Fox River line of rag-content papers for office forms, ledgers, etc. There's a Fox River rag-content paper for every business need — you'll profit more by selling the entire line. But, start with your prospect's letterhead. Write today for the "See for Yourself" kit. It's free.



PRESENT A FINE LETTERHEAD PAPER

. . . like Fox River Anniversary Bond, an all-rag prestige-building paper that sells itself to smart executives.



PROVE ITS SUPERIORITY

. . . with our "See for Yourself" kit, which shows the difference. You can use this as an effective piece for sales calls or for your direct mail.

OFFER A "COMPLETE" LINE OF RAG- CONTENT PAPER



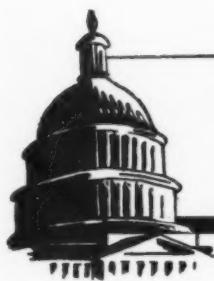
. . . like the following Fox River Papers:
Anniversary Bond, Ledger and Onion Skin - 100% Rag
Old Badger Bond and Ledger - - - - 75% Rag
English Bond and Ledger - - - - - 50% Rag
Dictation Bond, Ledger and Onion Skin - 25% Rag

FOX RIVER

*Fine
Papers
SINCE 1883*

FOX RIVER PAPER CORPORATION •

4066 APPLETON AVE., APPLETON, WISCONSIN
MODERN LITHOGRAPHY



WASHINGTON

WPB Increases Paper Quotas

FOR the first time in two and one-half years the permitted consumption of paper by lithographers and printers has been increased. A revision of L-241, issued July 3 and effective July 1, sets paper consumption for commercial printing and lithography at 80 per cent of the base period (1941), which is an increase of approximately seven per cent over the quota of 75 per cent of the base which was in effect prior to July 1.

Robert D. Ross, chief of the Commercial Printing Section of the War Production Board, told *Modern Lithography* that the revised order allows more paper for small users. For users of five tons or less per quarter in the base period, the quota has been increased to five tons per quarter. For users of more than five tons and not more than 10 tons per quarter in the base period, the quota now is 100 per cent of the base period. For users of more than 10 tons and not more than 12½ tons per quarter in the base period, the quota is now 10 tons per quarter. For users of more than 12½ tons per quarter in the base period, the quota is now 80 per cent of base usage.

The paragraph which limits acceptance of deliveries has been simplified. In effect it states that during the third quarter or any quarter thereafter no lithographer or printer may accept, or no one may accept for him, delivery of paper in excess of his allowable quota for that quarter. Thus if a lithographer is using his full quota throughout the quarter, his inventory will remain the same as at present. If he uses less than his allowable quota, then he will have an opportunity to build up an inventory in proportion.

Similar increases in quotas were

allowed in revisions of Orders L-244 and L-245 covering books and magazines.

Copies of the revised orders were expected to be distributed during the early part of July.

Attention continued to be focused on reports from Sweden on the pulp and shipping situation there. On June 16 the War Shipping Administration announced that freight rates on wood pulp from Sweden had been set and that vessels were available to start moving pulp to the U. S. No official reports indicated that the pulp had actually been shipped, or how much would be shipped, but there was general agreement that Swedish pulp would provide some relief from the pulp famine.

The compliance teeth of the paper orders were bared during June when Lindsey L. Baird, president of Rewl Publications, Inc., New York, was sentenced to 60 days in prison and fined \$20,000 for using paper to publish comic books when he had no paper quota. Mr. Baird was charged with having used 300 tons of paper.

A reminder was sent out by WPB calling attention to the fact that printers and lithographers are responsible for checking a publishers paper quota certificate. Failure of a New York printer to check with WPB on a paper quota certification supplied by a publisher, resulted in the disposal as scrap paper of 250,000 copies of a magazine "The Guilty." Other cases of comic magazines being printed and then frozen by WPB were also reported by that agency.

On June 4 Grant Richardson, Hamermill Paper Co., succeeded Walter Wilcox, as director of the Paper Division of the Forest Products section of WPB. Mr. Wilcox has returned to

his duties with the S. D. Warren Co.

Order M-1-g controlling the use of aluminum powder in inks and pastes was revoked during June, and aluminum ink is expected to be more readily available as a result.

Allow Saturdays Off

WLB ruled June 27 that employers may give white collar workers Saturdays off during the summer without applying to the board for approval.

The WLB approved this resolution: "Any employer may, without additional board approval, pay to all employees in his offices or retail establishments, and to all his white collar employees wherever employed, if adjustments in their wages or salaries are subject to the board's jurisdiction, their regular wages or salaries without deduction for the time not worked by such employees because of the reduction of a five and a half or six-work week, during the period from June 1 to Sept. 15."★★

Geese Leaves Cuneo

Charles F. Geese, who has been in charge of the offset department of Cuneo Eastern Press, Philadelphia, resigned June 29 to join Harry Faber, New York graphic arts engineer and consultant. Mr. Geese said that his principal activities would be to work with Time, Inc., on the further development of offset lithography for production of the various editions of *Time* magazine. His new work may take him overseas where *Time's* overseas offset editions are produced, he stated. He will also continue to be in close touch with Cuneo where negatives are made for the overseas editions for air transport to various parts of the world. Mr. Geese was to make his headquarters in New York when he joined the Faber concern July 15.

(No. 9 of a series on the manufacture of Du Pont Photolith Film)



Ever see a sensitive "noodle"?

AFTER the light-sensitive, raw emulsion for Du Pont Photolith Film has been chilled to a stiff gel, it is put through a "noodle" press. This transforms the cakes of emulsion into "noodles," so as to expose a greater surface area for washing.

"Noodling" and washing are conducted in almost total darkness. Only the dimmest of safelights can be used.

Following a thorough washing,

the "noodles," in stainless steel containers, are placed in huge refrigerators. Tests and blending to insure uniformity come next, and when these are completed the emulsion is ready for coating on film base.

These are but a few of the steps in the carefully controlled processes that produce "Photolith"—a film with high contrast and wide exposure latitude that dries quickly, lies flat, and engraves

easily. Cameramen like "Photolith" for these features. They know, too, that the unique packages originated by Du Pont for cut and roll film reduce film waste, save time in the darkroom, and give light-proof protection even after the package seals are broken.

E. I. du Pont de Nemours & Co. (Inc.), Photo Products Department, Wilmington 98, Delaware.

DU PONT PHOTOLITH FILM



BETTER THINGS FOR BETTER LIVING...THROUGH CHEMISTRY

HELP BRING VICTORY
NEARER . . . INVEST
IN WAR BONDS REGULARLY



ABOUT THE TRADE

Booklet for Veterans Issued By Joint Council

THE booklet, "Is There a Job for Me in Lithography," issued under the direction of the Joint Lithographic Advisory Council for veterans interested in the lithographic industry, was distributed to several agencies for further distribution during June. The 5½ x 8½ in., 32-page, lithographed booklet, (illustrated on the front cover of this magazine) briefly outlines the background of the industry, the war job of the industry, its future, nature of the work, and job opportunities. The bulk of the text comprises job definitions and classifications. Accepted industry definitions are included for camera man, artist, stripper, photomechanical platemaker, hand transfer platemaker, pressman, press operator, cutter, sketch artist, layout man, production manager, estimator, and salesman. Besides describing in detail the work done in each of these jobs, the booklet also lists additional training required, physical demands, working conditions, and hazards.

Also included is a general list of job qualifications possessed by successful craftsmen. Average wage scales are given, as well as an outline of the union's policy. A list of training materials available completes the booklet. It is illustrated with nine halftone illustrations of workmen doing various lithographic jobs, in addition to the reproduction of a four color press on the cover.

The booklet was compiled through the cooperation of the Lithographers National Association, the National Association of Photo-Lithographers, the Amalgamated Lithographers of America, and the Lithographic Technical Foundation.

Copies are available in limited quantities to recognized companies or other organizations. Information may

be obtained from George E. Loder, chairman of the Joint Council, 75 Varick St., New York 13, or from Benjamin M. Robinson, Council secretary, 70 Pine St., New York 5.

Craftsmen to Meet Aug. 6

The annual meeting of the International Association of Printing House Craftsmen, with attendance limited to one delegate from each member club besides local residents, is planned for August 6 and 7 at the Deshler-Wallick Hotel, Columbus, Ohio.

Delegates will be registered Sunday afternoon August 5 and Monday morning the 6th. The first session will open at 10 a.m. Monday with Sidney Howe, president of the Columbus Club, presiding. Officers' reports will be presented and convention committees appointed.

A Club Management dinner meeting will be held Monday evening under the general leadership of E. G. Hubbell, chairman of the Educational

Commission. The International Vice-presidents will act as discussion leaders in a "Share Your Knowledge" meeting.

The third general session will convene at 10 o'clock Tuesday morning to consider Committee reports and other unfinished business. The final business session will be held Tuesday afternoon and will be concluded with the formal election of officers and the selection of the convention city for 1946.

Tuesday night a banquet is planned, at which time awards will be made to the winners in the International Bulletin Contest, and the new International officers will be inaugurated.

Arrangements have been made for plant visits and sight-seeing tours as time permits between sessions and possibly after the meeting closes.

Concerning the meeting, W. F. Schultz, International president, said, "If railway travel is so restricted at the last minute as to make our business meeting impossible, members will be promptly notified, and arrangements will be made for an election of officers by mail ballot."

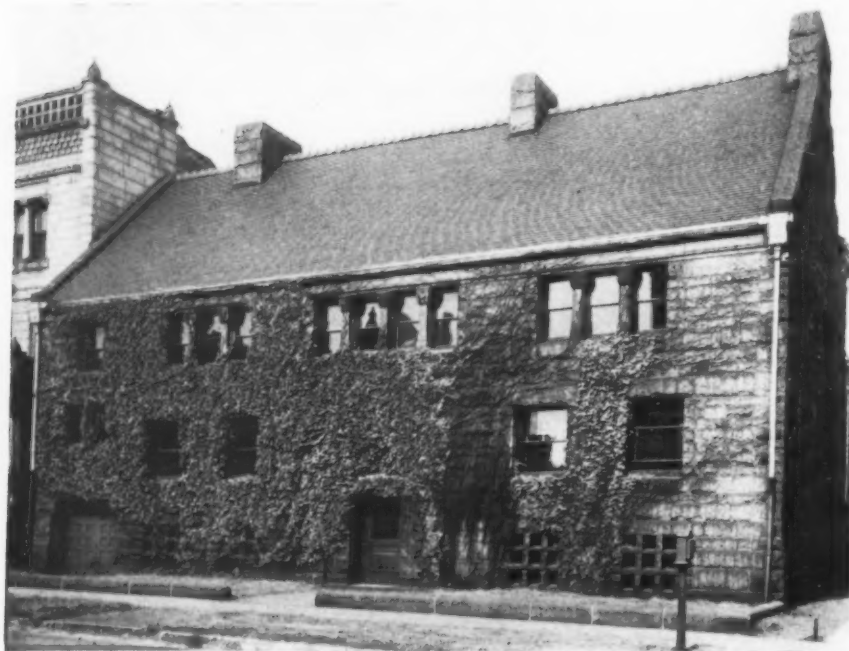
Delegates of Nation's Litho Clubs Meet July 27

MOST of the nation's litho clubs plan to send representatives to the organization meeting of the National Association of Litho Clubs scheduled to be held in Philadelphia Friday July 27 according to replies received early in July to invitations sent out during June. Walton W. Sullivan, president of the Litho Club of New York, which with the Litho Club of Philadelphia, is motivating the formation of the new national association, said that definite acceptances had been received from all of the eastern clubs and from some in the middlewest up to July 1. Others were expected to be heard

from before the date of the meeting, Mr. Sullivan said. The meeting will be held at the Ben Franklin Hotel, and may possibly run into the following day.

Delegates from the New York club will be Mr. Sullivan, who is with Tooker Litho Co., Alfred Rossotti, Rossotti Lithographing Co., and William Carey, Sweeney Litho Co. The Philadelphia representatives will be William J. Stevens, Edward Stern & Co., club president, Merle Schaff, Dando Schaff Printing & Publishing Co., and Anthony Capello, Jos. Hoover & Sons. Other clubs have not announced their representatives.

New Home of Litho Foundation in Chicago



This is the most recent photograph of Glessner House, at Prairie Ave. and East 18th St., Chicago, which will be the research headquarters of the Lithographic Technical Foundation. This shows the 75 foot front of the vine-covered mansion. The building runs about 200 feet deep and contains a landscaped courtyard inside its U-shape. The Foundation's laboratory equipment is being moved from the University of Cincinnati to this newly acquired location, and additional equipment will be added. The building also contains ample room for executive offices, and classes. (Complete story, ML, June, Page 31)

PIA Comes Into Being July 12

Printing Industry of America, Inc., an association formed by the combined forces of the United Typothetae of America and the Joint Committee on Government Relations of the Commercial Printing Industry, was to come into existence officially on July 12, following approval of the move by all necessary officers, directors and members. The final UTA membership vote by mail is to be completed on that date, and UTA reported that the count during June stood at 559 for, and one against, enough to carry the poll.

The Printers National Association representing union shops, has taken action to become affiliated with Printing Industry of America, although it will remain an autonomous group within the larger organization. The Employing Printers of America, comprising open shops, has also expressed an interest in joining the large group. Local groups, affiliated with the Joint Committee and other

independent local printing organizations, are also expected to take part in the nationwide association, according to the PIA announcement.

The first annual meeting of the new PIA will be held sometime between September 14 and October 1, and at that time a full slate of officers, an executive committee representing all important groups in the membership, and a general manager will be chosen by the directors who represent the local associations and the membership at large.

The new organization is to "represent the commercial printing industry in matters of government relations, public relations, labor relations, and special services." Closed and open shop sections are set up in the by-laws to handle all labor matters, and units representing open and closed shops operate on an autonomous basis to handle labor relations problems, it was explained.

The committee which spearheaded the organization includes Donald

L. Boyd, co-chairman; Harold W. Hill, Cleveland; Raymond Blattenberger, Philadelphia; and Robert Caffee, Pittsburgh; representing UTA; and James F. Newcomb, co-chairman; Carl E. Dunnagan, Chicago; Clyde K. Murphy, St. Louis; and Ralph Thomas, Detroit; representing the Joint Committee.

The lithographic industry is not represented as a unit in the new organization, although many of those prominent in the group represent combination offset and letterpress shops.

Plan Large Binding Exhibit

Cas. Jaworski, chairman of the exhibits committee of the Chicago Club of Printing House Craftsmen, has announced preliminary plans for an extensive exhibit of all types of bindings as used in the graphic arts. The exhibit is to include every type and brand of fine binding, library binding, edition binding, side and saddlewire, textbooks, loose-leaf mechanical and manifold and blankbook. Mr. Jaworski reports that several binderies, printers and lithographers have cooperated in the collecting of the many types of bindings over a period of two years, and that only a few types are needed to complete the exhibit.

They are to be shown in Chicago at a time to be announced, and will later be made available to organizations in other cities who are interested in such an exhibit. Mr. Jaworski may be addressed at 3116 North Elston Ave., Chicago 18.

Scantlin Returns to Post

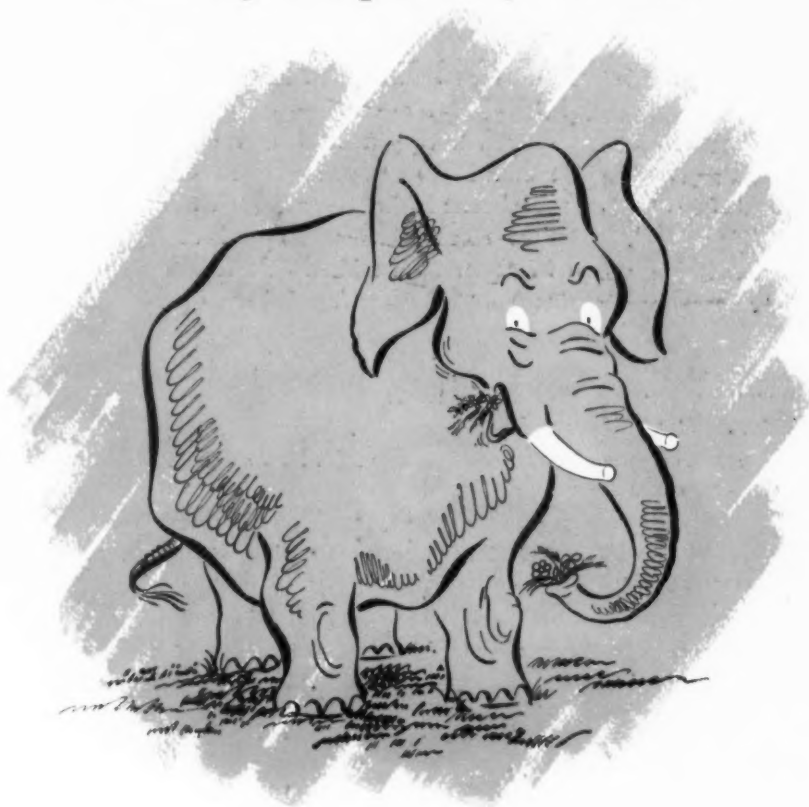
William L. Scantlin has returned to his former post as manager of off-set sales of the western division of Miehle Printing Press & Mfg. Co., after being engaged in war work at the Miehle plant since 1941. He is located in the company's offices at 14th Street and South Damen Ave., Chicago.

Amer. Bank Note Official Dies

John P. Treadwell, Jr., 63, secretary and controller of American Bank Note Co., New York, died June 4 after several months' illness. He had been with the firm since 1907.

MODERN LITHOGRAPHY

The elephant is big and strong.
 His trunk is also very long.
 Such mighty growth seems so unreal
 With hay and peanuts for a meal.



ATLANTIC BOND TAKES COLOR IN LARGE AREAS

There's nothing strange about it . . . nothing unreal . . . Atlantic Bond can be flooded with ink without any mottled effect.

The secret, of course, is its flat, even surface, free from wrinkles, waves, and lint.

Not only that, when it comes to make-ready, shut-downs, and other pressroom troubles, Atlantic Bond is the printer's best friend.

Always, when you want to do a job better, faster, and more economically . . . a job that calls for a bond paper that has plenty of character and value . . . do it on Atlantic Bond.

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 ATLANTIC DUPLICATOR ★ ATLANTIC MANIFOLD
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 Boston {John Carter & Co.
Century Paper Co.
Cook-Vivian Company
Von Olker-Snell Paper Co.
 Bridgeport.....Lott-Merlin, Inc.
 Bristol, Va.....Dillard Paper Co.
 Buffalo.....Franklin-Cowan Paper Co.
 Charlotte, N. C.....Dillard Paper Co.
 Chattanooga, Tenn.....Bond-Sanders Paper Co.
Birmingham & Prosser Co.
 Chicago {La Salle Paper Company
Reliable Paper Co.
 Cincinnati.....The Johnston Paper Co.
 Cleveland.....The Millcraft Paper Co.
 Columbus.....Sterling Paper Co.
 Dallas.....Olmsted-Kirk Company
 Denver.....Dixon & Company
 Des Moines.....Pratt Paper Company
 Detroit.....Chope-Stevens Paper Co.
 Fort Wayne.....The Millcraft Paper Co.
 Fort Worth.....Olmsted-Kirk Company
 Greensboro, N. C.....Dillard Paper Co.
 Greenville, S. C.....Dillard Paper Co.
 Hartford {John Carter & Co.
Henry Lindenmeyr & Sons
 Houston.....L. S. Bosworth Co.
 Indianapolis {Indiana Paper Company
MacCollum Paper Company
 Jackson, Miss.....Townsend Paper Co.
 Jacksonville, Fla.....Jacksonville Paper Co.
 Kansas City.....Birmingham & Prosser Co.
 Little Rock.....Arkansas Paper Company
 Los Angeles.....Carpenter Paper Co.
 Louisville.....The Rowland Paper Co.
 Macon, Ga.....Macon Paper Company
 Manchester, N. H.....C. H. Robinson Co.
 Miami.....Everglade Paper Company
 Milwaukee.....Wisconsin Paper & Products Co.
 Minneapolis.....Stilwell-Minneapolis Paper Co.
 Mobile, Ala.....Partin Paper Co.
 Monroe, La.....Louisiana Paper Company
 Muskogee.....Muskogee Paper Co.

Nashville.....Bond-Sanders Paper Co.
 Newark.....Central Paper Co.
 New Haven...Whitney-Anderson Paper Co.
 New Orleans.....Alco Paper Co., Inc.
Berman Paper Corp.
Forest Paper Company
 New York {Majestic Paper Corp.
Milton Paper Co.
A. W. Pohlman Paper Co.

Oakland.....Carpenter Paper Co.
 Omaha.....Field Paper Co.
 Orlando, Fla.....Central Paper Co.
 Philadelphia {Molten Paper Company
The J. L. N. Smythe Co.
 Pittsburgh.....General Paper and Cordage Co.
 Portland, Me.....C. H. Robinson Co.
 Portland, Ore.....Carter, Rice & Co. of Oregon
 Providence, R. I.....Narragansett Paper Co.
 Richmond.....Virginia Paper Co.
 Roanoke, Va.....Dillard Paper Co.
 Rochester.....Genesee Valley Paper Co.
 St. Louis.....Shaughnessy-Kniep-Hawe
 St. Paul.....E. J. Stilwell Paper Co.
 San Antonio.....Shiner-Sien Paper Co.
 San Diego.....Carpenter Paper Co.
 San Francisco.....Carpenter Paper Co.
 Savannah.....Atlantic Paper Company
 Seattle.....Carter, Rice & Co. of Washington
 Shreveport.....Louisiana Paper Co.
 Springfield, Mass.....Whitney-Anderson Paper Co.
 Stamford, Conn.....Lott-Merlin, Inc.
 Tallahassee.....Capital Paper Co.
 Tampa.....Tampa Paper Co.
 Texarkana, Ark.....Louisiana Paper Co.
 Toledo.....The Millcraft Paper Co.
 Trenton.....Central Paper Co.
 Tulsa.....Tulsa Paper Company
 Waco, Texas.....Olmsted-Kirk Company
 Washington, D. C.....Virginia Paper Company
 Wichita.....Southwest Paper Co.
 Worcester.....Butler-Dearden Paper Service
 York, Pa.....The Mudge Paper Co.

Monterrey, N. L., Mexico.....Carpenter Paper Co.

MANIFEST BOND ONLY is also sold in New York City by
 Henry Lindenmeyr & Sons, Merriam Paper Co. and George
 W. Millar & Co., Inc.

**AN IMPORTANT ANNOUNCEMENT
CONCERNING
LAWSON
PAPER CUTTING MACHINES**

The E. P. Lawson Company during its 47 years of business has sold and serviced thousands of paper cutting machines. As the world's largest distributors we have learned much about what the industry demands of paper cutting equipment. Our service department, charged with the repair and maintenance of these machines, recognizes the improvements necessary for trouble-free operation and economical production.

With the knowledge gained over almost half a century the E. P. Lawson Company has completed plans and are tooling-up to manufacture high quality paper cutting equipment with many new features—Precision equipment that will give continuous and high-speed performance with safety.

With the lifting of WPB limitation order L226 it is now possible to begin the manufacture of paper cutting machines for future delivery. Keep in touch with Lawson.

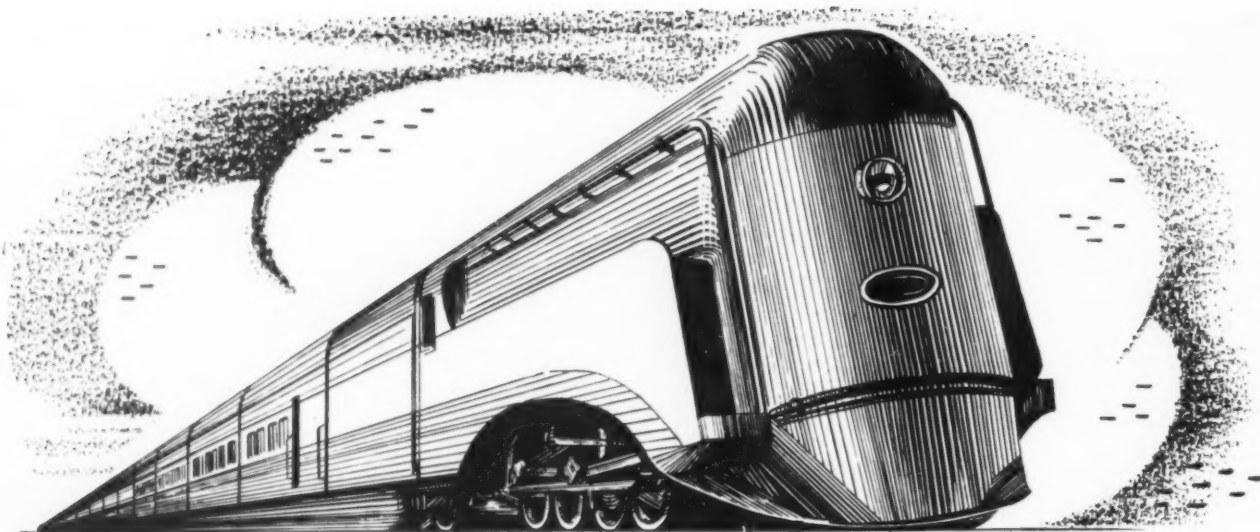
E. P. LAWSON Co.

PIONEERS IN PAPER CUTTING MACHINERY

426 WEST THIRTY-THIRD STREET, NEW YORK 1, N. Y.

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Streamlined Delivery-

Speed is the keynote of today's business. Speed in production, speed in packaging, speed in distribution and delivery. Business is constantly trying for ways to get better quality products at a faster pace. So it is with Litho Chemical & Supply. We know that when you need chemicals you want them, first, of high quality, and second, within a reasonable time.

Through our dealers, you can get the same fine chemicals that come direct from our laboratories. These dealers are strategically located to provide immediate supplies of our complete line. They have been chosen for their ability to serve you — in most cases overnight. Through these dealers we have been able to streamline our delivery, so that you can streamline your production.

The FUCHS & LANG MFG. CO., Division
GENERAL PRINTING INK CORP.

In Principal U. S. Cities

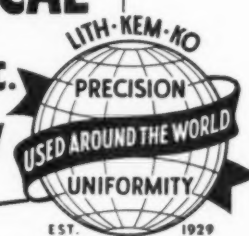
Pacific Coast: CALIFORNIA INK CO., INC.
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SEND FOR our new LITH-KEM-KO Catalog. It lists and describes these outstanding products of the house that pioneered in fine lithographic chemicals:

Champion Albumin	Sav-a-lac Plate
B.P.B. Ready-to-use	Intensifier (Purple)
Sensitizer	Griptite, a "stop walk"
Jiffy Developing Ink	Plate Intensifier
Jiffy Heavy (Deep Etch)	Dumore Asphaltum
Developing Ink	Plate
Transol Developing Ink	Wash-out solution
Lith-Vilo (Non-Poison)	Liquid Tusche
Plate Etch	Black Opaque "GRAPH"
Dr. Hans Zuber Etch Salts	Red Opaque "VELVO"
Imperial Fountain Solution	Negative Stains,
Fountex, Fountain Solution	red and black
Solio, Self-Gumming base	Staging Solution
for use in fountain solutions	Firpentine,
Non-Souring Pure	Turpentine Substitute
Gum Solution	

**LITHO CHEMICAL
& SUPPLY CO., Inc.**

63 PARK ROW, NEW YORK 7



Hall Plans Huge Expansion

Plans for a \$4,000,000 program of plant expansion and new equipment were announced June 18 by W. F. Hall Printing Co., Chicago, through its president Alfred B. Geiger, at a meeting of stockholders.

The Hall company, and its affiliates, the Chicago Rotoprint Co., the Central Typesetting and Electrotyping Co., both of Chicago, and the Art Color Printing Co., Dunellen, N. J., is one of the largest volume printing organizations in the country. The Chicago plants are located at 4600 Diversey Avenue and 4601 Belmont Avenue.

The company recently completed the scrapping of more than 300 tons of obsolete presses, binders, and other equipment preparatory to the installation of some of the latest type replacements.

"We have had long standing orders for certain types of equipment which manufacturers now assure us will become available shortly," President Geiger explained. "In addition, we are now in the process of placing orders for a large number of new installations which will permit us to carry on the heavy volume of work which we anticipate will follow the release of consumer goods as well as the relaxing of paper restrictions.

How much of the expenditure would be for offset equipment, company officials would not divulge.

The company was awarded the Government Printing Office Certificate of Merit on June 7.

C. M. & H. Co. Opens Plant

The C. M. & H. Offset Company, which was formerly a division of Collins, Miller & Hutchins, Chicago photo engravers, and was thereafter sold to Vernon Evans and associates, has opened a new plant at 63 West Grand Avenue, Chicago, under the management of Mr. Evans. The company offers a complete platemaking and offset printing service in the small press field. At the present time, the firm has four presses but has more ordered for delivery as soon as equipment is again available.

Mr. Evans was formerly head of

the offset department for the Northern States Publishing Company, Hammond, Indiana.

Leaves Clark for Own Business



Gordon Bartels, above, who for the last 20 years has been associated with J. L. Clark Mfg. Co., Rockford, Ill., metal lithographers, announced July 1, that he is forming his own concern, which will offer to the lithographic industry a complete line of metal decorating coatings, and also varnishes and lacquers for paper labels, cartons and displays.

Baltimore Holds Crab Feast

The annual crab feast of the Litho Club of Baltimore was planned for Saturday, July 21st, at Cape May Beach, Middle River, Maryland.

One of the highlights of the afternoon was to be a soft ball game between the metal decorators and the paper lithographers. Lloyd Bowden of Continental Can was to pitch and George (Buck) Frank of Crown Cork and Seal Co. was to catch, for the metal team.

Norman A. Heath, Photo Litho Plate Graining Co., was chairman.

Joins L. A. Firm

Charles A. Shaw, formerly with Columbia Lithographing & Engraving Co., Chicago, has joined Hillman-Shane-Breyer, Los Angeles, as production manager.

San Francisco Firm Moves

Lithotype Process Co., lithographers and printers of San Francisco, recently moved to new quarters at 523 Folsom Street, postal zone 5.

Coast GPO Man Joins Hall

Ryland C. Petty, manager of the Government Printing Office branch and warehouse in San Francisco, joined Hall Lithographing Co., Topeka, Kan., as production manager, June 18, Clarence Severin, company president, announced. As manager of west coast GPO activities, Mr. Petty was in charge of the printing requirements of the United Nations Conference.

Mr. Petty graduated from Kansas University in 1925 and has spent 25 years in newspaper and commercial printing work in Kansas.

Prior to his connection with the GPO he was for seven years production manager of the Consolidated Printing and Stationery Company in Salina.

Petty has also taken post-graduate work in salesmanship at the University of Southern California, and has served as production manager for the W. H. Kistler Stationery Company of Denver, Colo., and as assistant superintendent of the Schwabacher-Frey Company in San Francisco.

Schmidt Awards on Coast

The Max Schmidt Memorial Awards, offered for winning designs for outdoor posters, were presented during June in connection with the Pacific Advertising Association's annual meeting at San Jose, Calif. First prize, \$200, was won by George Sheppard, with a design for Union Oil Co. of California. Second prize was won by B. Bomberger with a poster for Interstate Brewery Co., and third prize went to Haines Hall for a Tide Water Assoc. Oil Co. poster. The awards are sponsored by the Schmidt Lithograph Co., San Francisco.

Shops Closed July 1-9

Many lithographic plants in New York, Philadelphia, and other cities, closed down during the week of July 1, through July 9, to provide a simultaneous vacation for all production employees, so that the shops could operate at full strength during the remainder of the summer. Most offices remained open.



KEEPING IN TOUCH



PREPARED BY INTERNATIONAL PRINTING INK DIVISION OF INTERCHEMICAL CORPORATION

JULY 1945

THE "BIG 3" ESSAY CONTEST WINNERS



Paul Broman, Central High School, Duluth, Minn., won the first prize of a \$500 War Bond.



Second prize of a \$200 War Bond was won by Sammy Shannon, Murphy High School, Mobile, Ala.



To the third prize winner, Henry N. Taylor, Groton School, Groton, Mass., went a \$100 Bond.

Gopher State Resident Captures Top Honors

Announcement of the prize winners in the Ninth Printing Essay Contest, sponsored by International Printing Ink in cooperation with the National Graphic Arts Education Association, has just recently been made by the judges.

Leading the winners, in one of the closest contests the series has seen, was Paul Broman of Duluth, Minnesota, followed by Sammy Shannon of Mobile, Alabama. Third prize went to Henry N. Taylor of Groton, Mass., while the fourth prize of a \$50 War Bond was awarded to George Edward Ehrlich of Newark, New Jersey. Fifth prize of a \$25 War Bond was captured by J. David Tregurtha of Trenton, New Jersey. Five dollars in War Stamps was awarded each of the 25 runners-up.

Third of U. S. Covered

The subject of the contest, "Printing in the Postwar World", inspired entries from nearly a third of the United States, in addition to Canada.

Since the inception of these contests nine years ago, nearly 25,000 essays have been written by our American youth on subjects pertaining to the Graphic Arts, and the part played by

printing in national and international affairs.

These contests have brought letters of praise and endorsement from teachers and leaders in every branch of the Graphic Arts Industry.

Prominent Men Act as Jurors

Serving for the ninth year as Chairman of the judging committee, Harry L. Gage, Vice President of Mergenthaler Linotype Company, was assisted by such outstanding men as Dr. Howard T. Hovde, Research Fellow, Graduate School of Business Administration, Harvard University; the Hon. A. E. Giegengack, United States Public Printer; Dr. Webster N. Jones, Director of the College of Engineering, Carnegie Institute of Technology; and Beardsley Ruml, Treasurer of R. H. Macy Company, New York City, and author of the Ruml Plan.

Canada Takes Silver Cup

The School of Graphic Arts, Montreal, Canada, walked off with the special prize of a Silver Cup for the best printed essay. The essay, written by Lawrence

Carpman, was printed, bound and designed by the students of the school.

Special Prizes for 10th Anniversary Contest

The 1945-46 Contest will mark the Tenth Anniversary of the IPI Essay Printing Contests. Additional essay prizes, with a special Grand Prize to commemorate the occasion, will be featured. Announcements of the contest, the subject of which will be "Printing and World Peace", will be sent out early in the fall.

Who May Enter

Entrants must be registered students in the freshman, sophomore, junior or senior class of an accredited high school, trade school or preparatory school in the United States or Canada. Junior high school students in the ninth grade may enter. Entrants must not be more than 21 years old on December 1, 1945, and students below the ninth grade are not eligible.

Schools that have not competed in previous contests are urged to send their names to: International Printing Ink, Empire State Building, New York 1, N. Y. Those schools that qualify will receive announcements in the fall.

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National Process, Kaumagraph, Get Navy Awards

THE first Commendation Award for outstanding war production of printing and lithography to be made by the U. S. Navy was formally received by The National Process Co., New York lithographers, on June 16. The award was made during a luncheon at the Hotel New Yorker attended by nearly 400 company employees, and by industry and Navy officials. Maurice Saunders, chairman of the board of the Lithographers National Association, was master of ceremonies. The award certificate was presented to George E. Loder, president of National Process, by Commander S. K. Singer, USNR, who also presented a miniature certificate to Harry Roth, representing the company's employees.

Feature of the program was the showing of official Navy movies of the battle and fire action of the aircraft carrier Franklin. Following the film, Lt. D. G. Billington, damage control officer of the Franklin, was introduced, and gave a brief account of his experience during and after the battle. He stressed the importance of damage control charts in keeping the huge ship afloat and operating and praised the National Process employees for their production record in producing these charts for the Navy.

Comdr. Frank M. Knox, USNR, told of the origin of the Navy Commendation Award, and also of the work of his office in handling millions of orders for navy printing.

Mr. Loder spoke on behalf of the company in accepting the award, and Mr. Roth addressed the group as departmental committee representative following his receipt of the miniature employee card.

Trobridge Marston, president of the Kaumagraph Co., Wilmington, Del., whose company received the Navy Commendation Award June 22, was a guest at the speaker's table.

Comdr. Knox made the presentation to the Kaumagraph Co. at the Wilmington ceremonies in recognition of that company's war record.

Kaumagraph's facilities have been devoted chiefly to lithography of maps for both the Army and the Navy. These maps on special rayon cloth were shown publicly at the ceremony for the first time.

In addition to the maps, Kaumagraph has produced millions of transfers and Prestomarks for every branch of the service. Kaumagraph also produced invasion brassards and American flags which were worn in plain sight on pilots' flight gear against the emergency of landing in occupied territory.

The ceremonies in Wilmington on

Right: Commander Frank Knox, USNR, presenting the Navy award to Trobridge Marston, president of Kaumagraph Co. in ceremonies in Wilmington, June 22. At left is Maurice Saunders, in background is Francis Janis, representing employees, and at far right is Elmer Smith, War Manpower Commission. Below is a view of the award luncheon held by National Process Co. at Hotel New Yorker, June 16.

June 22nd were attended by guests from the textile trades as well as from the Navy. The master of ceremonies for the occasion was Maurice Saunders.

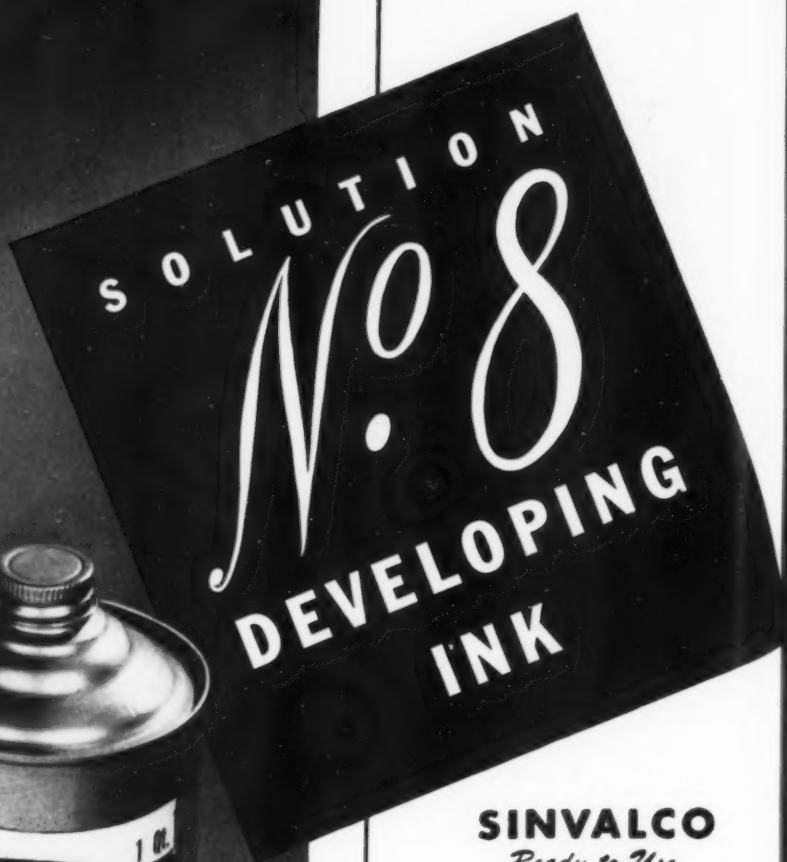
Mr. Marston, president of the Kaumagraph Company, acknowledged presentation of the award by Commander Knox who also presented replicas of the award to each of the employees through their representatives. Acknowledgment to Commander Knox in behalf of the employees was made by Eugene L. Woznicki.

In recognizing the distinction of the Navy Award Mr. Marston paid tribute to the suppliers who, by their cooperative efforts, had furnished the materials necessary in the Kaumagraph manufacturing processes.

Other firms receiving the navy award, as announced last month, were Arkansas Printing & Lithographing Co., Little Rock, Ark.; The A. L. Garber Co., Ashland, Ohio; and Waverly Press, Inc., Baltimore.



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NAPL Honors Ross

Robert D. Ross, Chief, Commercial Printing Section, Printing and Publishing Div. of the War Production Board, was honored by the National Association of Photo-Lithographers, for his services to the graphic arts in a resolution approved by the board of that association. The resolution, which is to be properly designed and sent to Mr. Ross, follows:

Whereas: The National Association of Photo-Lithographers recognizes the outstanding achievements of Mr. Robert D. Ross in behalf of our Government and the Printing Industry during his long and arduous service as Chief of the Commercial Printing Section of the Printing and Publishing Division of the War Production Board, and

Whereas: It has been largely through his efforts that the war problems faced by the printing industry, due to the critical shortage of materials, have been so competently and courageously handled, enabling printing plants to operate throughout the war and to maintain maximum production for war and civilian requirements, and

Whereas: The National Association of Photo-Lithographers desires to express its admiration and gratitude for his invaluable, untiring and courageous efforts of which he has given so unstintingly to further the war effort of the Graphic Arts industry, now

Therefore Be It Resolved: That the National Association of Photo-Lithographers take this opportunity on behalf of its membership to give due recognition to Mr. Robert D. Ross for his outstanding achievements in the War Production Board and to commend him publicly for the guidance, counsel and assistance he has given to the Graphic Arts industry during these troublesome times.

Unanimously approved and adopted by the officers and Board of Directors in session this 10th day of May, 1945.

NATIONAL ASSOCIATION OF PHOTO-LITHOGRAPHERS,

Harry E. Brinkman
President
Walter E. Soderstrom
Secretary

Engravers Launch Research

The Battelle Memorial Institute, Columbus, Ohio, has been engaged by Photo Engravers Research, Inc., to carry on a program of research for improvement in the photo engraving process. Forty engraving firms which comprise the Photo Engravers Research organization, are sponsoring the program. Laboratory work will

be carried on at the Graphic Arts Division of the Institute.

Process Litho Arts Expands

An additional floor has been leased for expansion purposes by Process Litho Arts, Chicago trade platemaking shop. The com-

pany was formed last December by Harold Dethlefsen (inset), formerly superintendent of Offset Fine Arts, Harry Smelsen, formerly foreman of platemaking at Gugler Lithographic Co., Milwaukee, and Walter Lowe, formerly with Regensteiner Corp. and Stearns & Co., both of Chicago. The firm specializes in color process separations and press plates.



Wichita Executive Resigns

Walter A. Vincent, president and founder of Western Lithograph Co., Wichita, Kan., resigned recently, and Frank H. Hallow became president. Mr. Vincent sold his interests to George Blume, Louis J. Ely, Cecil Jones, and Mrs. Cora L. Haden, all of Wichita. Mr. Vincent, who will remain in an advisory capacity, founded the firm in 1893, and installed offset presses in the early 1920s.

Morris Heads MASA

Charles S. Morris, Business Letter Service, New York lithographers and letter house, was elected president of the Mail Advertising Service Association at its annual meeting June 12 at the Advertising Club, New York. Edward Weinberg, Century Letter Service, was elected vice president, Harold O'Neill, Fisher-Stevens Service, secretary, and Miss Frances Hildreth, St. John Associates, treasurer. Speakers at the meeting were Henry Hoke, and Edward N. Mayer, Jr.

Buffalo Firm to Expand

Sales Lithograph Co., 220 Washington Street, Buffalo, N. Y., has filed plans with the city for a \$10,000 expansion of its premises.

Milprint Gets E Award

Milprint, Inc., Milwaukee printers and lithographers, and producers of packaging materials, received the Army-Navy E Award recently for war production. M. T. Heller, company president, received the award on behalf of the firm. Milprint has produced war packaging materials in such substances as cellophane, foil, and other moisture resistant materials.

Chester C. Klayer

Chester C. Klayer, 67, director and former secretary of Kindred, MacLean & Co., Long Island City, N. Y., lithographers, died June 7. Mr. Klayer had been connected with U. S. Printing & Lithographing Co., Cincinnati, and Snyder & Black, New York, before joining Kindred, MacLean in 1928. He retired from active duty about a year ago and returned to Cincinnati, where he died.

Form Springfield Company

Three former employees of General Offset Printing Co., Springfield, Mass., recently organized the Springfield Offset & Printing Co., 32 Worthington St., that city. Equipment was acquired from Speed Lithographing Co., Waterbury, Conn. The principals are Samuel Chester, Basil Tilley, and Elwin Warner.

ATF Appoints Rudolph

Ned Rudolph has been appointed manager of the St. Louis office of American Type Founders, succeeding E. A. Tracy who became a special representative of ATF in the Midwest. Mr. Rudolph joined ATF in 1938 and has been in the printing industry more than 20 years, the company said.

Edmund D. Gibbs Dies

Edmund D. Gibbs, 81, former sales manager of Ketterlinus Lithographic Mfg. Co., Philadelphia, died recently in Bronxville, N. Y.

Key Co. Changes Name

Mid-States Lithographing Co. is the new name taken recently by Key Lithographing Co., Milwaukee.



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Indianapolis 2
Kalamazoo 12
Kansas City 6

Minneapolis 15
Nashville 3
Oklahoma City 6

Pittsburgh 3
St. Louis 2
Springfield, O.

Ohio Decal Firm Expands

Purchase of three divisions of Dura-Products Mfg. Co., Canton, Ohio, was announced June 27 by Howard Zink, president of the Howard Zink Corp., Fremont, Ohio. Included in the transfer are the Dura-Products Decalcomania Transfer Div., License Plant Emblem Div., and Miscellaneous Metal Products Div. Manufacture and distribution of the products involved will continue under the new management as soon as production facilities can be moved from Canton to Fremont, according to Emery Sevitte, who is in charge of Zink's decal design and production operations. The Zink corporation, makers of fabric auto accessories, expects to broaden its 20 year old line of Dandecals. Advertising and sales promotion will be handled by the Howard Swink Advertising Agency, Marion, Ohio.

Philadelphia Holds Outing

About 190 members and guests of the Litho Club of Philadelphia tossed aside all thought of business Saturday, June 30, and spent most of the day at that club's first outing in several years. It was held at the Philadelphia Rifle Club and the informal sports program included soft ball, tennis, quoits, and cards. The sports events were followed by dinner and a floor show. Walter A. Kaiser, Edward Stern & Co., was chairman of the outing Committee.

Charles Homold, Dunlap Printing Co., Harold F. Fieldler, Typothetae Philadelphia, Inc., and John R. Meade, J. R. Fuhrer Co., were recently elected into the club's membership by the board.

Metal Decorators to Meet

The National Association of Metal Decorators is formulating plans for a meeting during September although no date has been announced as yet. Association officials stated that the meeting would probably be held in Pittsburgh, and will be built around the subject of aluminum as a metal decorating and fabricating metal. A trip through an aluminum plant may also be included. Complete plans are expected to be announced in August.

JULY, 1945

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U. S. P. & L. Honors Miller's 60 Year Record



At the head table were: Standing—T. G. Meehan, W. C. Miller of Baltimore, C. H. Brown of Phila., Walter Baltryn, and J. P. Lewis. Seated—Karl F. Irmischer, John Callahan of Cincinnati, Gen. Ottmann, Mr. Miller, Mr. Walters, John Trauth, Frederic H. Miller, and J. I. Voorhees.

FREDERIC W. MILLER, was guest of honor June 6 at a dinner given by his associates at United States Printing & Lithography Co., Brooklyn, paying tribute to his completion of 60 years of service with the company. The dinner was held at the New York Athletic Club, and William H. Walters, company vice-president and Brooklyn manager, was master of ceremonies. A presentation of an inscribed gold watch, chain, and knife, was made on behalf of Mr. Miller's associates, by Gen. William Ottmann, company board chairman. George J. Rufenacht was chairman of the general arrangements.

Mr. Miller's unusually long record in the lithographing business includes many experiences. Now 75 years of age, he entered the industry as an engraver's apprentice at 14. That was in 1885, when he joined Meyer, Merkel & Ottmann, forerunner of the present company. Jacob Ottmann, one of the partners, and an uncle of Gen. Ottmann, bought out the other principals, and changed the name to the J. Ottmann Lithographing Co., located at 26 Warren St., New York.

In 1893 Mr. Miller represented his firm at the Columbian Exposition at Chicago. The exhibit in which he took part featured six Hoe 44 x 64 in. flat bed stone presses, and was quite an attraction at that world-renowned exposition. Mr. Miller recalls.

The Ottmann company came under the management of the United States company in 1905, and by that time Mr. Miller was foreman of the engraving department. The plant was located at Elizabethport, N. J., for a time and later was established in

Brooklyn. Four offset presses were installed a short time after this type of press was introduced.

Mr. Miller progressed with the company, holding positions of assistant superintendent, superintendent, assistant manager and general manager. He was general manager for 12 years prior to 1933 when he gave up active production work to become a contact man, and today he handles sales work.

Friends of Mr. Miller's at U. S. P. & L., listed on the program as having long records with the company, included:

Jack Aulman, Walter Baltryn, John Baumann, Philip Beggs, Anthony C. Beuth, Arthur H. Birkett, Clarence H. Brown, Eldon R. Bunce, George R. Calabrese, Albert S. Carmichael, John Christovichek, Frank J. Clissa, Peter S. Curto, Charles Dietz, Armand Dynner, August W. Eisenhauer, John Endres, Raymond Fichter, Frank H. George, John L. Gibbs, Frank J. Goldzung, Charles M. Hammer, Robert Harris, Albert F. Heinitz, Alexander S. Henel, Joseph R. Hernandez, Albert M. Hofmann, Karl F. Irmischer, Charles Kable, John J. Knitis, Albert Koeble, Joseph J. Kopsick, Peter Kraus, Jr., John Lambie, A.R.T.2/c, Frank LaMotte, Harry Langluttig, Salvatore C. Lembo, Joseph P. Lewis, Col. Arthur C. Linn, Frederick Manny, Claude Martinez, R. Coleman Morgan, Francis P. McNulty, E. Somers McWade, John McSherry, Timothy G. Meehan, William C. Miller, Joseph C. Molitor, Gen. Wm. H. Ottmann, Justus Paul, Frank Pauli, John F. Perrin, Philip Rakiski, John Reif, Richard P. Robison, George J. Rufenacht, Lester J. Scott, George D. Seib, Anthony Simanauckus, Walter S. Squires, Herbert Stephens, Sgt. Ludwig J. Stockus, Emil Thiel, Joseph P. Thomas, Anthony Trabert, John Trauth, Theodore J. Wald, Edward Wallenhorst, James Walters C/S, John Walters, William H. Walters, Robert

C. Willamowski, J. Irving Voorhees, and John Yeskot.

Frederic H. Miller, son of the guest of honor, and a former employee of the company, was also present.

Hinkhouse, Inc., Expands

An increase of almost 100 per cent in floor space and the installation of several pieces of new equipment comprised an expansion move during July by Hinkhouse, Inc., New York lithographers. The firm acquired additional space in its present location, 121 Varick St., and moved the office and warehouse to the ninth floor while the shop remains on the tenth floor with expanded space. A new 29 inch process camera, and a whirler which will handle plates up to 45½ x 55 in., are included in the new equipment added. The move does not affect the letterpress branch of the firm, known as the Paul M. Hinkhouse Press, at the same location.

For the fourth consecutive year Hinkhouse, Inc., closed down the shop for the period from June 30 to July 10, for vacations. A skeleton staff remained in the office.

Partners of the firm are Paul M. Hinkhouse, Victor DeRose, and Irving Rabin.

Mass. Group Reelects Whidden

Robert A. Whidden, Rand Avery-Gordon Taylor, Inc., Boston combination plant, was reelected president of the Graphic Arts Institute of Massachusetts at that group's annual meeting June 20. Other officers reelected included Frederick H. Lutz, F. H. Lutz Co., vice-president; James M. Howard, A. T. Howard Co., treasurer; and Alcid H. Simmons, secretary. Addis M. Dempsey, Donovan & Sullivan Engraving Co., was elected assistant treasurer, succeeding Robert W. Williamson, T. O. Metcalf Co.

Ark. Firm Plans New Equipment

Postwar expansion plans of Democrat Printing & Lithographing Co., Little Rock, Ark., include two new presses, a varnishing machine, and a die press, it was announced. The company, specializing in labels, serves packers in Arkansas and surrounding territory.

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Kernell Directs Eagle Ink

Harold A. Kernell has been appointed general manager of Eagle Printing Ink Co., Div., General Printing Ink Corp., John F. Devine, operating vice president of GPI, announced June 20. Mr. Kernell succeeds J. Howard Houston, who resigned June 8. E. J. Murphy, Eagle vice president and assistant general manager, who has been with the firm 40 years, will direct eastern sales, and A. J. Try, manager of the Chicago office, is in charge of sales and service for that district. Mr. Kernell will divide his time between New York and Chicago. He also heads GPI's American Printing Ink Co. Div.

Folks Addresses Students

Charles Folks, secretary of Rogers, Kellogg, Stillson, Inc., New York combination plant, was the speaker at the graduation exercises June 19, of the evening classes carried on by the New York Employing Printers Association. Over 400 students were

enrolled in the classes during the school year just ended, including many printing executives. A course in the fundamentals of lithography was under the direction of Franz Stockinger, and his son Frank Stockinger, of Stockinger Langbein Photo Litho Corp.

Favor Simplified Paper Base

A survey of paper manufacturers, printers, publishers, and other large paper consumers shows that they are overwhelmingly in favor of adoption of the proposed simplified standard base for paper measurement according to Bulkley, Dunton Pulp Co., New York. Less than 1/3 of one per cent of the 1,500 printers, publishers and converters, desired to retain the present system of paper measurement, while less than one per cent of 700 paper and board manufacturers questioned indicated that they preferred the present method.

The company undertook the nationwide poll as a result of the favorable reaction to the article pub-

lished in several trade magazines on the simplified standard, written by George G. Cobean, president of Bulkley, Dunton Paper Co., S. A. (ML, March, 1945, Pg. 43). The simplified method does not involve changes in present sizes and weights of paper and paperboard, but changes the yardstick of measurement to a 25 x 40"—1000 sheet base. By this method the system can utilize decimals since each sheet contains 1,000 square inches and the basis is 1,000 sheets.

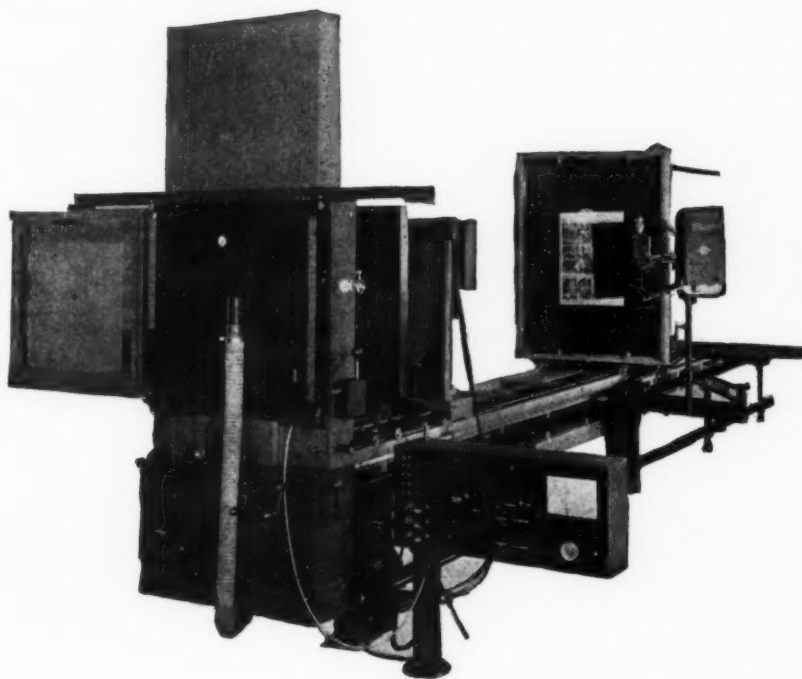
James Gray Expands

James Gray, Inc., New York combination plant, and direct mail specialists, recently expanded its letterpress department with the purchase of two small presses, and by enlarging its composing room facilities.

Rutherford Adds E Star

The second renewal of the Army-Navy E Award has been won by the Rutherford Machinery Co., Div. of General Printing Ink Corp., for its record of war production.

THE VALETTE COLOR PRECISION CAMERA



This outstanding camera is completely operated by electricity, including controls for lens board, copy board, transparency holder, lens diaphragm, flashing lamp, compensating lens, arc lamps, and lens shutter. This is only one of the Valette products which help lithographers achieve more efficient operation.

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MODERN LITHOGRAPHY

Talk of Detroit Litho Club

Interest in the formation of a litho club in Detroit was shown at the June 28 meeting of the Employing Lithographers Association of Detroit, David Safran, Safran Printing Co., secretary, reports. Other topics discussed at the meeting included the pamphlets, booklets and other industry literature issued by the Lithographic Technical Foundation and the Joint Lithographic Advisory Council, and the magenta contact screen. The group voted to contribute \$400 to the Foundation.

Young, Ink Man, Dies

John T. (Jack) Young, offset ink salesman for Kohl & Madden Printing Ink Co., New York, died June 17, following an operation.

Miami Valley Assn. Elects

The following officers were elected by the Miami Valley Lithographers Association at a meeting held at the Kenwood Country Club, near Cincinnati, June 20: president, W. H. Merten, Strobridge Lithographing Co.; vice-president, John E. Hennegan, the

Hennegan Co.; treasurer, Oliver W. Perin, Gibson & Perin Co.; executive committee: C. Fred Burtanger, Reynolds & Reynolds Co.; Harry E. Brinkman, Cincinnati Lithographing Co.; Oliver W. Perin, Gibson & Perin Co., and Thos. Stevenson, Stevenson Photo-Color Separation Co. E. P. Rockwell is secretary of the club.

Christensen Heads Craftsmen

E. H. Christensen of W. H. Hall Printing Co. was elected president of the Chicago Club of Printing House Craftsmen, June 16. Other officers are Louis Plough, Harvester Press, first vice-president; Charles Duval, Inland Press, second vice-president; Chester M. Holsinger, Regensteiner Corp., treasurer; Michael Ivers, *Esquire*, financial secretary, and Russell Olander, Twentieth Century Press, recording secretary.

John F. Burkhardt, production manager, D. F. Keller & Co., and Henry Goergen, offset pressroom foreman, Magill-Weinsheimer Co., were among the class of eight new members inducted into the Club.

C. V. Morris to Reinhold-Gould

Charles V. Morris has joined Reinhold-Gould, Inc., New York paper distributors as director of trade relations, Harry E. Gould, president, announced June 30. Mr. Morris was formerly secretary, sales manager and a director of J. E. Linde Paper Co., and more recently was with William E. Rudge's Sons, and the National Assn. of Manufacturers. He was prominent in the Graphic Arts Victory Committee, edited several GAVC booklets and has contributed to several graphic arts publications in addition to editing "Linde Lines" for a number of years. He has been associated with the paper and graphic arts fields for more than 19 years.

Also joining Reinhold-Gould recently was Fred H. Pinkerton, specialist on merchandising, advertising and direct mail. Charles Lander, formerly office manager of the company, was named controller, and George Hartman, advertising manager, was appointed assistant to the president for special relations with paper mill suppliers.



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DEVELOPING INKS

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PHOTO PRODUCTS DEPARTMENT
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ROCHESTER 3, N. Y.

HOW TO RATE JOBS

(Continued from Page 31)

exactly \$1.50, some are worth \$1.40 and others may be worth \$1.65 to you. The determination of these rates is a departure from job evaluation, since it is giving consideration to the individual, rather than the job itself, and we shall discuss this separately.

After your scatter diagram is drawn and the trend line developed it is desirable to similarly plot area wages, local wages, and such other comparisons as may fairly apply. In Boston we made inquiry of local concerns in the same industry, requesting minimum, average and maximum wages paid to their various wage class occupations. These were then averaged and median lines drawn on the scatter diagram, thereby affording an interesting wage comparison. The questionnaire sheets received from competitive companies were retained by us since our engineer had made an agreement with these local companies not to divulge these rates to any other company including our client. Seventy-five plant jobs were plotted, representing 112 rates of pay and 149 employees.

We attempted to secure wage information from customary sources of various types of jobs in the lithographic industry but found that there was no survey available that was sufficiently comprehensive to satisfy

the needs of management, the War Labor Board and ourselves. Consequently questionnaires were sent to thirteen representative companies in the Boston area who do work identical to our client. Some were small, some large; some were reputed to pay low wages and others high wages, and in all were considered representative. Of the eleven companies that replied three reported that they used the New England Amalgamated Lithographers of America union rates, which we had previously obtained both for the New York area and the New England area.

Ninety-five rates were received but since in many cases the job descriptions did not exactly tally with our client's we were able to use only 59 of them for comparison. An average of these average rates was used and a median line established by the least squares method, and then plotted on a chart. This gave our client a comparison of his plant wages with the average paid by other similar companies in the Boston area for these same jobs.

As you might suspect there were inequities and inconsistencies, some rates being too low and others too high. Our client immediately petitioned the War Labor Board for permission to raise rates which were too low and upon presentation of our report, and supporting statistical data, approval was granted. On the other hand, where jobs are overpaid we endeavor to place the operator in a

higher priced job where he can earn his going rate, at the earliest possible time. Overpayment must be considered as a management error in not having jobs properly evaluated previously, and cannot be corrected by arbitrarily reducing the wage rate of the overpaid employee. In the course of time it becomes necessary to replace employees due to natural causes, and at that time the correct rate can be used.

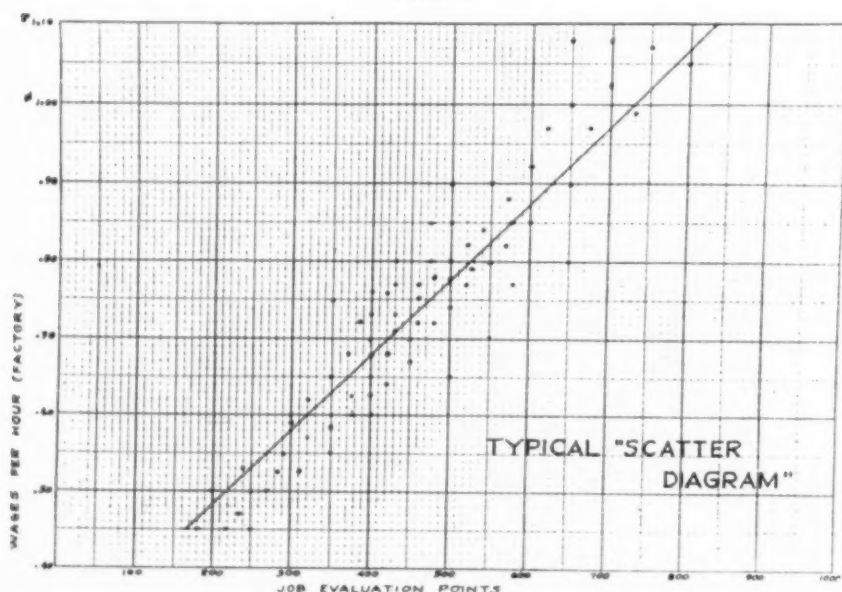
Another interesting byproduct was the fact that perhaps one-third of the time of the committee was spent determining or understanding management policies. Additional time was consumed due to changes of mind in regard to organizational functions or policies, and hence we recommended that, insofar as possible, basic policies be permanently established and explained to subordinates. While not intending to influence morale, it is likely that an improvement in this respect will result.

On the salary job evaluation, 68 salaried jobs were plotted, representing 76 rates of pay and 79 employees. For the purpose of comparison adequate data was available through the Regional War Labor Board for the lower paid jobs, ranging up to the \$25-\$32 per week class. Above this range however no comparable data was available, although a degree of comparison was presented through the extension of the WLB data trend line.

Job evaluation is a most valuable tool of management in labor negotiations. During the past few years it has had practically unanimous approval by unions and labor groups, which is not surprising since it was invariably a means of securing certain wage increases under existing wage restrictions. However, I think it is particularly important in your industry where there is a wide range of occupations, much variation in job requirements and the necessity of close cooperation between workers and departments.

(Supplementing this discussion, Mr. Elliott will deal with merit rating and wage incentives in concluding this series in a later issue.—Ed.) ★ ★

Figure 1.





Lithographed in 4 colors

WARREN'S Cumberland Offset
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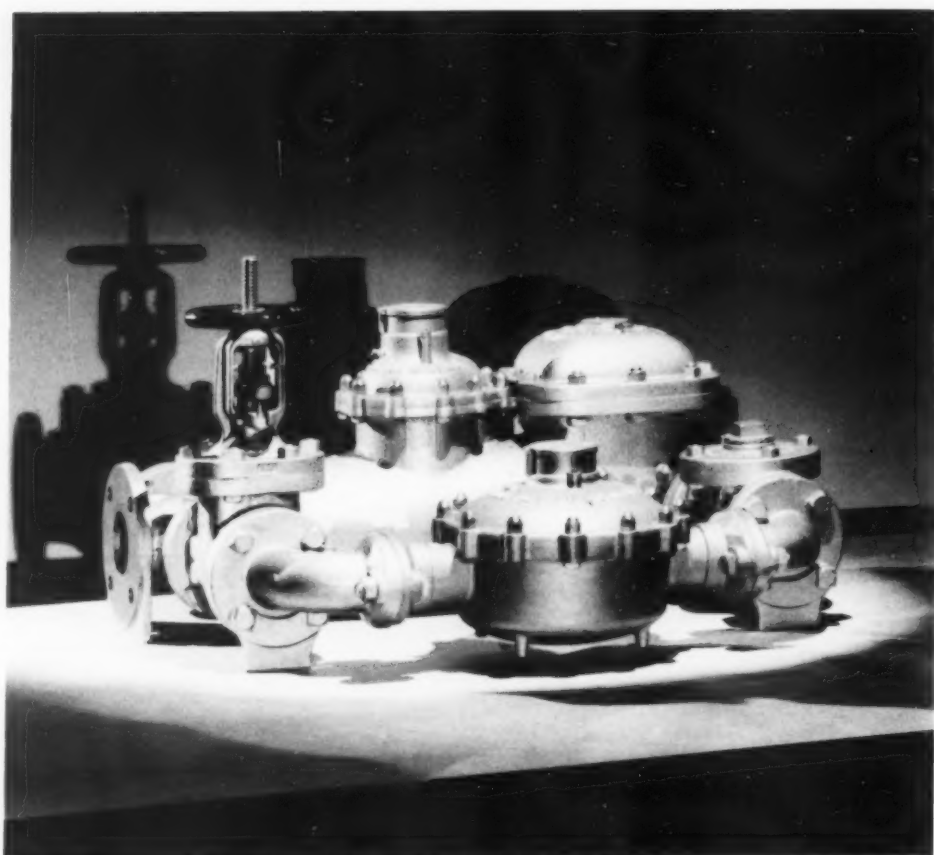


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EQUIPMENT & BULLETINS

Describes Two-color Process

Process effects in two colors offer many possibilities and advantages, according to a folder titled "Two-color Process," issued recently by the Eagle Printing Ink Co., Div., General Printing Ink Corp. The folder, which shows a dozen printings in different combinations of colors of the same subject, illustrates the effects obtainable with two colors. The principle is described as follows:

"Economy is a factor, of course—in artwork, engravings and printing. Yet beyond this, the two-color process allows for a fairly convincing simulation of full color.

"The principle is to combine a warm hue with a cool one—but to have the colors slightly analogous so they will form interesting blends and will suggest hints of other hues.

"In the two-color process, one ink is held brilliant and the other deep. This darker color may then be used for type matter. Whereas ordinary printing in two colors usually is designed along decorative lines, two-color process leads to realism and may be employed in halftone illustrations for rich and very natural effects."

Copies of the folder are available from the company, 100 Sixth Ave., New York 13.

Surface Checking Method

A method of studying minute variations in surfaces, which may prove useful in lithography in the study of surfaces of paper and grained plates, has been announced by Rex D. McDill, Cleveland. The method, which utilizes the Faxfilm Comparator Apparatus, produces an exact replica of a surface in clear plastic in about one minute. This can then be projected at 100 diameter magnification, and every detail of the finish of the surface is shown. The apparatus has

been used in industry and research for checking machined finishes, metallurgical specimens, paper and fabric structure, and biological specimens. Information may be obtained from Mr. McDill, 5107 Mayfield Road, Cleveland 21.

New Book on Color

Protective and Decorative Coatings

Joseph J. Mattiello, Editor, 349 pages. United States Government Printing Office, Washington, D. C. 1945. \$1.25.

Reviewed by EARL K. FISCHER

This volume is entirely separate from the series with the same title, edited by Dr. Mattiello, and published by John Wiley & Sons, Inc. It is a compilation of a group of lectures given by specialists for the Plastics Section of the Research and Development Branch of the Military Planning Division, Office of the Quartermaster General. The purpose of the lectures was to present an account of the latest developments in organic coatings to the personnel of various government agencies. This volume resulted from many requests that the material in the lectures and discussions be preserved in permanent book form.

In all there are 24 sections, each written by an acknowledged authority in the special fields covered. While the subjects are discussed largely from the point of view of the paint technologist, the content is fundamental in character, and since the raw materials of printing ink and the coatings for metal decorating are drawn from the same sources, it should prove of high interest to experts in the graphic arts. Approximately half of the book is devoted to resins, solvents, and additives such as driers. The remainder of the space is concerned with such topics as pigments, luminescent materials, special finishes, and the measurement of color. The two chapters on color provide an excellent summary of the modern theory

and practice of color measurement, and present, in addition, a discussion of principles for the application of color. Many of the chapters include the discussion which followed each lecture and supply an informal conversational commentary. Numerous photographs, drawings, and tables illustrate and supplement the text. In all respects, this is a book that everyone who is connected with the technical aspects of the graphic arts should have available.

New Adhesive Roller Covering

A new dampening roller covering with an adhesive back designed to eliminate shrink, stretch, and distortion of the dampening surface, has just been announced by the Adhesive Roller Covering Co. The material, known as "Stick-E-Bak" is applied to or removed from a rubber roller like friction tape and can be cut smooth at the end of the roller. The company says that sewing is eliminated, and a truer diameter is maintained, so that dampening rollers may be set with less pressure. The material comes in rolls 8", 10" and 12" in width and five and ten yards in length. Information and samples are available to MODERN LITHOGRAPHY readers from the company at 3303 Richmond Street, Philadelphia 34, Pa.

Tells Advertising Expenditures

"Expenditures of National Advertisers in Newspapers, Magazines, Farm Journals and Chain Radio," published by the Bureau of Advertising of the American Newspaper Publishers Association, has just been issued, and shows how much money was invested with each of the four media in 1944 by each national advertiser who spent \$25,000 or more in any one of the media. The publisher is located at 370 Lexington Ave., New York 17, N. Y.



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War Board Orders Donnelley Strike to Cease

THE National War Labor Board, on June 19, called the strike at the Chicago plant of R. R. Donnelley & Sons Co., a "violation of the no strike, no lockout agreement," and ordered the work stoppages to cease.

The strike began June 4 when about 1000 members of the International Printing Pressmen's and Assistants' Union voted to withdraw their services following a breakdown of negotiations on what the company claimed was the issue of the open shop. The Amalgamated Lithographers of America did not declare a strike, although members of Chicago Local 4, were unwilling to cross the picket lines. The strike also involved several other printing and lithographing plants.

In a statement issued to its customers, the Donnelley company said in part:

It is our position that we cannot submit the question of the open shop

to arbitration. The employee must have freedom of choice, and we stand for an open shop in which—

1. Our employees are free to join, not join, remain in or resign from a union, and

2. In which belonging to or not belonging to a union shall not be a condition of employment.

The strike has now been in effect for over two weeks. More than three-fourths of the employees in our Chicago plant have remained at work, and many of those who stayed away at the beginning of the strike have since returned to work. For example, in the pressrooms, by the end of the second week of the strike, forty per cent of the pressmen and assistant pressmen who had struck had returned to work. Those at work have shown the finest kind of cooperation in an effort to get out all of the work possible under the circumstances.

A statement issued by the Chicago Federation of Labor said in part:

The uncompromising attitude of the Donnelley management, in refusing to bargain in good faith with unions which had won National Labor Relations Board elections, impelled the members of one of those unions—the

International Printing Pressmen and Assistants Union of North America—to withdraw their services from the Donnelley plant.

Since then, other unions have resolved not to cross the picket line set up by members of the International Printing Pressmen and Assistants Union. Members of these cooperating unions have, in fact, joined the picket line themselves. The plant is now patrolled night and day by members of the International Photo-Engravers Union, the International Typographical Union, the International Association of Machinists, the International Brotherhood of Electrical Workers, the Amalgamated Lithographers of America, the International Brotherhood of Bookbinders, and other organizations.

The text of the telegram from the NLRB follows in part:

1. Strike at Donnelley plant in Chicago is in violation of the national no strike, no lockout agreement.

2. The refusal to perform particular work for customers of Donnelleys (as well as for some non-customers) at the plants of Chicago Rotoprint, American Colortype, Henneberry, Manz and Regensteiner Corp. and of the Cuneo Press, Chicago and Philadelphia, constitute forms of work stoppages in violation of the national no strike, no lockout agreement. These stoppages, which are designed to aid the strike at Donnelleys, are being directed by the Organization Commit-

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HYDRO-ALBUMEN has been prepared with laboratory precision, with the purpose of being trouble-free and its use will eliminate many of the unaccountables. Its use also represents economy of plate making costs and saves the time of the plate department making its own albumen solutions.

In general Hydro-Albumen is similar in light hardening quality as egg albumen and our product has been standardized so that little change is required in the usual procedure of making plates, namely, counter-etching, coating, exposure, inking, developing, etching, and gumming-up.

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tee of the Chicago Printing Trades Unions, and are being participated in by unions representing the Pressmen, Book Binders and Paper Cutters, Press Assistants, Lithographers, Mailers, Photo Engravers, Paper Handlers, and Binding Helpers and Specialty Workers.

3. The Board directs that these strikes and stoppages be forthwith terminated without discrimination on account of such strikes and stoppages.

4. The Board recommends that upon the return of the employees to work pursuant to the foregoing directions, the Donnelley Company and the Printing Pressmen should further explore the possibilities of private arbitration as a means of finally determining the issues in dispute. The National War Labor Board stands ready to hear and decide expeditiously any issues which may be excluded from such arbitration.

5. The International Association of Machinists and the Amalgamated Lithographers Union No. 4 have informed the Board that their members are not on strike at Donnelleys but are declining to cross picket lines. Since the controversy between Donnelley company and the Printing Pressmen underlies all of the stoppages, the Printing Pressmen have a particular responsibility to see to it that all work is promptly resumed.

LTF Holds Open House

Open house, giving a group of New York lithographers their first chance to see the newly acquired New York headquarters of the Lithographic Technical Foundation, was held July 12. The decoration of the residential-type house, located at 131 East 39th St., is now complete, and includes a number of old lithographs from the Fuchs & Lang collection. Six of these lithographs were given as prizes to lithographers attending the open house affair.

Green Duck Co. Sold

The Green Duck Metal Stamping Co., Chicago metal decorators, was sold during June to an unnamed group of Chicago industrialists. Plans have been announced for an expansion program and the manufacture of several additional items.

Rossotti Expands Sales Area

A sales office under the direction of Harvey W. Petty, has been opened in Jacksonville, Fla., by Rossotti

Lithographing Co., North Bergen, N. J., to serve Florida, Georgia, the Carolinas, Alabama, and Tennessee. Mr. Petty is a native Georgian and has worked in the South for many years.

Lists Litho Training Courses

A folder listing employee training courses for which textbooks and other material are available has recently been issued by the Lithographic Technical Foundation. The folder contains complete information on the materials, where the courses are used and how they may be obtained. Copies are available from the Foundation, 131 East 39th St., New York 16.

Veteran Returns to Plant

George F. Wiemeyer, 28 year old veteran of four and one-half years in the infantry branch of the military services, is back at his offset pressman's duties with Magill Weinsheimer Co., Chicago.

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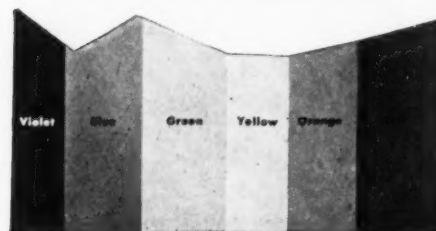
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JULY, 1945

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Air Travel Affects Lithography

Air transport will be an increasingly important factor affecting lithography and printing, and light-weight papers will continue to be important as weight reducers, according to Ecusta Paper Corp., Pisgah Forest, N. C. This company, in promoting its light weight flax paper, issued an announcement July 1, quoting Public Printer A. E. Giegengack as saying that the use of heavier stock by air will, in certain cases, prove economically unsound. "This in turn," he said, "will call for air-weight papers that can be printed letterpress in full color, and by offset and gravure as well."

Attention also was focused during the past month on the increasing volume of printed matter now being shipped by air express. Figures compiled by the Air Transport Association of America show a 345 per cent increase in the total weight of packages carried by 21 U. S. air lines since the start of the war. A sizeable percentage of this increase was attributed

to the increasing use of air express by printers and publishers.

Press plates, negatives, and microfilm are being flown by air for various purposes in the lithographic industry to expedite production.

Offer Chicago Photo Courses

The Chicago School of Photography has announced three specialized courses in photography, a fundamental course, an advanced professional course, and an advanced technique course. These include color as well as black and white work. Information is available from the school, 59 East Van Buren St., Chicago 5.

Acquires Montreal Litho Co.

Eric O'Connor, of Federated Press Ltd., Montreal, has acquired the plant and business of the Benallack Lithographing and Printing Company.

IMPROVEMENTS

(Continued from Page 32)

may be used instead. We may look forward to having improved plate coatings of chemically changed natur-

al proteins which will be sprayed on plates or applied with new type strip coaters. Photographic emulsions of higher resolution and contrast will be available as will improved long-life photographic developers. New alloys of aluminum and of nickel will be available for plate bases. Some aluminum-steel plates and aluminum manganese alloys have already been tested and found to show high promise. Papers for offset will be of greatly improved quality and they may contain melamine or urea resins to give them high wet strength and improved non-stretch characteristics which will result in better register on multi-color work. Box board stocks will be impregnated with resins or plastics or even GR-S rubber to lend improved grease-proofness and water-proofness when used for cartons.

Finally, it is to be expected that with travel and communication improving between the nations, there will be an ample market for the high grade lithographic printing which American lithographers will be producing.★★



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TECHNICAL BRIEFS

From Current Literature in the Graphic Arts

These abstracts of important current articles, patents and books are compiled by the Research Department of the Lithographic Technical Foundation, Inc. These abstracts represent statements made by the authors of articles abstracted, and do not express the opinions of the abstractors or of the Research Department. Mimeographed lists have been prepared of (1) Periodicals Abstracted by the Department of Lithographic Research, and (2) Books of Interest to Lithographers. Either list may be obtained for six cents, or both for ten cents in coin or U. S. stamps. Address the Department of Lithographic Research, University of Cincinnati, Cincinnati 21, Ohio.

*HOW TO OBTAIN COPIES

Where titles are marked with an asterisk, the original articles can be furnished by the Foundation (address above) as photographic copies at twenty cents per page, plus six cents postage for each four pages or less. Copies of United States patents can be obtained by sending ten cents per copy to the Commissioner of Patents, Washington, D. C.

Photography, Negative Making

***Process Practice (No. 64): Posterizing.** Frank H. Smith. "Process Engraver's Monthly," 52, No. 617, May, 1945, pp. 112-113 (2 pages). Variations in the method of posterizing described in the previous article are: stripping a line highlight negative over a normal halftone negative to drop out the highlights, or using a normal positive for one of the line positives to obtain a partly posterized effect. The shadow of a normal halftone can also be completely closed by an analogous procedure. Posterized pictures can be made of one instead of two shades of gray, plus black and white. A short description of the "Tritone" process concludes the article.

***Photo-Lithography: Photo-Litho Negatives.** A. Haigh and H. M. Cartwright. "Process Engraver's Monthly," 52, No. 617, May, 1945, p. 114 (1 page). The type of negative used for line blocks is suitable for photolitho, but much larger sizes are sometimes required. For some work, such as map-copying, the lenses must be especially well corrected and the camera accurately aligned. Methods for testing are described. Wet and dry plates are equally suitable, and film and paper are convenient where great accuracy of scale is not required. For large sizes, where evenness of illumination is a problem, exposure should be low enough to leave all lines clear, even if the background loses some density.

Colored Photographic Mask. Ralph M. Evans (to Eastman Kodak Company). "U. S. Patent" No. 2,376,132, October 3, 1941. The method of forming a color-correction mask for a photographic color film having superposed dye images, at least one of

which absorbs a major proportion of light in the spectral region of one of the primary colors and a minor proportion of light in at least one other region of the visible spectrum, which comprises exposing a light-sensitive silver halide emulsion layer to light passing through said color film and forming therein a colored image corresponding to at least one of said dye images having said minor absorption region, said colored image absorbing light in only said inner minor absorption region of said dye image, and having a gamma substantially equal but opposite to the gamma of said dye image when both are measured by light of the color of said minor absorption region.

Thiosalicylic Acid Antifoggant. Harold D. Russell (to Eastman Kodak Company). "U. S. Patent" No. 2,377,375, December 14, 1943. The method of reducing fog in a photographic silver halide emulsion, which comprises exposing said emulsion and developing it in the presence of a fog-inhibiting amount of thiosalicylic acid.

***Photographic Document Copying in War-time.** T. L. J. Bentley. "Photographic Journal," 85A, Section A, April, 1945, pp. 99, 100, 101 (3 pages). Photographic copying methods eliminate all chance of error, are rapid, and permit reproduction of any size. The choice of method—variable-scale copying, micro-scale copying, or same-size copying by contact—is determined by the character of the original, the speed of operation necessary, permissible cost, required quality of result, and the form in which the result is desired. The characteristics of representative copying equipment of each type are discussed.

Fine Grain Developers. Richard W. Henn and John I. Crabtree (to East-

man Kodak Company). "U. S. Patent" No. 2,376,141, December 29, 1941. A fine-grain photographic developer comprising a developing agent and a quaternary nitrogen salt of 2-amino-benzothiazole.

***Densitometry.** Joseph S. Friedman. "American Photography," 39, No. 6, June, 1945, pp. 38-39 (2 pages). The theory, and details of the construction, of an inverse-square densitometer of the type originally used by Hurter and Duffield is presented.

Planographic Printing Surfaces

Alloy Steel Printing Plate. Clements Batcheller. "U. S. Patent" No. 2,375,210, January 3, 1941. A printing master comprising a plate of chromium-containing alloy steel provided on the printing face thereof with an electrolytic grain and having an image forming substance superposed on predetermined zones of said face.

***Stainless Steel Offset Plates.** Clements Batcheller. "Modern Lithography," 13, No. 5, May, 1945, pp. 59, 61, 63 (3 pages). Specially processed stainless steel for use as all metal lithographic plates is described and the various advantages of such plates are pointed out. Such advantages are said to be greater structural strength at less weight, greater surface hardness, freedom from "stretch" or "creep," extremely fine grain making the plate almost immune to wear, greater affinity for ink than a corresponding albumin image, absolute permanence in storage without gum, and ease and economy in recovering used plates.

***Offset Platemaking Technique and Equipment.** R. Ernest Beadie. "Inland Printer," 115, No. 2, May, 1945, pp. 37-38 (2 pages). Printing frames are the equipment reported on in this article. Cleanliness is stressed as a first consideration. The following are discussed: construction, care of equipment—both when in use and when not in use—proper location, operating space, and amperage in the printing lights. Formula and directions are given for making of glass transparencies for patching up flats of different colors.

***The Control of Oxidation on Zinc.** Capt. Michael H. Bruno. "Modern Lithography," 13, No. 5, May, 1945, pp. 65, 66, 101, 103, 105 (5 pages) (to be continued). In this introduction to a description of the Cronak process, Capt. Bruno points out the general difficulties encountered with zinc and aluminum plates due to uncontrolled oxidation. Zinc plates, particularly in the tropics, are rapidly destroyed through the action of moist air, and a protective treatment, in order to be useful, must not only protect the plate from this destructive



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action but must be simple to operate and must not require special materials or equipment. Necessarily, it must be compatible with the lithographic process and must not discolor the plate to such an extent that it interferes with the visual contrast of the image. Phosphate treatments generally darken the plate to an undesirable extent and only the Cronak process using dichromate appears to meet the requirements.

***Lithographic Images Which Have No Grease as a Foundation—The Aller Process as Described by Eric Humphries.** R. B. Fishenden. "Modern Lithographer and Offset Printer," 41, No. 4, April, 1945, p. 66 (1 page). The Aller Process as described by Eric Humphries in the "Penrose Annual," Vol. 42, 1940, is reviewed. The method of the process is briefly given and its value and advantages are quoted from Humphries' conclusions. The chief advantages set forth are: the durability of the hard copper image, no problems due to atmospheric changes, and the fact that no grain is applied to the plate.

Surface Treatment of Zinc and Cadmium. Russell H. McCarroll, John L. McCloud, and Harry E. J. Hanson (to Ford Motor Company). "U. S. Patent" No. 2,376,158, June 2, 1942. A method for the surface treatment of metals selected from the group consisting of zinc and cadmium to produce a high lustre durability and a surface capable of being painted, comprising, the step of immersing the metal in an aqueous bath containing as essential elements about 120 grams chromic acid per liter, about 0.25 to 0.50 gram sulphuric acid per liter and about 0.8 to 1.2 grams nitric acid per liter, the ratio of said chromic acid to the combined amount of the sulphuric and nitric acids being approximately 100 to 1.

Equipment

Printing Press. William Ward Davidson. "U. S. Patent" No. 2,374,668, March 18, 1940. A printing press including a plate-platen roll adapted to bear a plate and a platen for offset printing and a plate or type for direct printing, a second roll adapted to have a transfer surface thereon and making two revolutions for one revolution of the plate-platen roll whereby it rotates the transfer surface first in contact with the plate and then in cooperation with the platen, said second roll also serving as a platen for direct printing.

Paper and Ink

***The Relationship of Ink to Paper.** John F. Beid. "Modern Lithographer and Offset Printer," 41, No. 4, April, 1945, pp. 76, 78 (2 pages). Printing inks must be of suitable yield, viscosity, flow, length and tack to be adapted to the particular press and stock on which they are to be used.

Ink must distribute properly and dry hard enough to allow handling without offset or smudging. It must be of proper color and opacity. At the same time, the pigment must be easily dispersible and, where occasion requires, give proper body to the ink. Because paper stocks vary from soft and absorbent to very hard and non-absorbent, the characteristics of the ink must be adjusted to suit the job. As a general rule, the viscosity and yield value of the ink should be as high as the paper stock and the press speed will allow.

***Machine Coated Paper.** P. J. Massey. "Paper Trade Journal," 120, No. 21, May 24, 1945, pp. 39-41 (3 pages). Machine coated papers have become extremely important to the printing industry and further advances are to be expected. The primary object for its development was to provide by economical means a paper that would take fine half-tones. A general description is given of the various types of machine coating equipment including the several variations of the roll and trowel coaters. The raw materials such as adhesives, minerals, raw stock, etc., are also considered.

Method of Printing. Wilbur L. Jones (to Interchemical Corporation). "U. S. Patent" No. 2,375,660, December 26, 1941. A method of printing with thermoplastic inks which are solid at normal room temperatures and become liquid when heated to elevated temperatures between 150° and 300° F. which comprises applying to an intaglio printing cylinder having engraved cells with a depth of from 20 to 30 microns in the areas of solid color, a thermoplastic printing ink comprising a thermoplastic vehicle and pigment in sufficient quantity completely to hide paper in film thickness of from 5 to 15 microns but in insufficient quantity to produce a yield value of over 100 dynes per square centimeter at temperatures at which the ink is printable; and transferring such ink from said engraved cells of the printing cylinder to the material being printed.

General

***The Cause of Scum During Plate-making and Machining.** Practicus. "Modern Lithographer and Offset Printer," 41, No. 4, April, 1945, pp. 70, 74 (2 pages). Through a consideration of the separate causes of scumming, various methods for avoiding scum are suggested.

***Back to Fundamentals.** Anonymous. "National Lithographer," 52, No. 5, May, 1945, pp. 44, 56 (2 pages). **For the Cameraman:** Carefully processed and properly filed photographic transparencies are generally more useful than filed lithographic plates in supplying repeat orders, since such transparencies require less room and are more durable. They have the added

advantage of being able to produce any number of plates as required. **For the Platemaker:** Gum Arabic should be prevented from scouring by the use of small amounts of formaldehyde. Nor may it be either too thick nor too thin, and the Baume of the solution should be determined only after all the bubbles have risen. If the gum is too thick, it may craze on drying and handling; if too thin, it may fail to function adequately. In order to prevent the solution from being syrupy and stringy, cold water should be used to dissolve the gum. **For the Pressman:** In order to produce continuously dependable results the O.K. sheet must be printed with ink distributed from the fountain and not with ink dabbed here and there with an ink knife. The balance between ink and water is of signal importance, in the production of satisfactory work and the amount of water is too great if the blanket appears to be wet.

Miscellaneous

***Photo-Engraving in 1944.** H. M. Cartwright. "Photographic Journal," 85A, Section A, April, 1945, p. 91 (1 page). This article is a review of new developments and applications in the field of photo-engraving in 1944. Improvements in offset lithography and collotype are also mentioned. There are sixteen references.

***Plate Making in the Graphic Arts.** John R. Bevan. "Photo-Engravers Bulletin," 34, No. 10, May, 1945, pp. 49-52 (4 pages). The methods of preparing original plates for the presses for the four processes—half-tone photo-engraving, litho offset, optak, and gravure—are discussed with respect to their respective merits, shortcomings, and applications. Suggestions are made of possible post-war changes in the graphic arts in materials, equipment, and technique.

***Principal Limitations of Dielectric Heating.** Carl J. Madsen. "Rubber Age," 57, No. 1, April, 1945, pp. 66-68 (3 pages). The major limitations of dielectric heating are reviewed. Since this method is not a cheap source of heat, cost is one limitation. However, in this connection, six compensating features by which it becomes economical are presented. Another limitation deals with materials, for dielectric heating is applicable only to materials considered poor conductors or insulators. The formula for calculating the heating is given and the following factors in this formula are discussed: dimensions, frequency, voltage and loss factor.★★

Lankheet, Strobridge, Dies

John B. Lankheet, 70, former stock man with Strobridge Lithographing Co., Cincinnati, died recently after an illness of five years.

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Snyder Heads Chicago Guild

Bernard Snyder, president of American Typesetting Corp., Chicago, is the new president of Printers Supplymen's Guild of that city. Alvah H. James, Cutler-Hammer, Inc., is vice-president; Charles R. Wallace, Economy Printing Products Co., continues as secretary; and Wm. J. McWilliams, Miehle Printing Press & Mfg. Co., is treasurer.

A golf outing is planned by the Guild August 3 at Westward Ho.

Lanston Earnings Up

Net earnings for the year ending Feb. 28, 1945, for the Lanston Monotype Machine Co., Philadelphia, were

\$290,140.12, equal to \$5.74 per share, compared to a net of \$237,694 for the preceding year. This year's net was after deduction of taxes amounting to \$566,700 and a reserve of \$100,000 for contingencies. Dividends paid for the year totaled \$177,465.

These figures were contained in an annual report issued June 27 by the company. The report states that the company was engaged in war production during the year, producing such products as airplane photo template cameras, map cameras, plate coaters, and large quantities of newly designed secret airborne instruments and range finders, now identified only as "dream weapons."

LTF Reports to Industry

A 16-page brochure, lithographed in two colors "Report to the Lithographic Industry," was recently distributed by the Lithographic Technical Foundation. The brochure reports the status of all of the activities of the Foundation, and lists all educational courses, all proposed research projects, the texts and manuals, and information on the various types of memberships. Copies are available from the Foundation, 131 East 39th St., New York 16.

Samuel L. Glover Dies

Samuel L. Glover, 55, treasurer of Gordon Glover Green Printing Corp., New York printers and lithographers, died June 26 following a brief illness. He had served as treasurer of the company for the last ten years, and was a member of the New York Employing Printers Association.

Want Prints for Veterans

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Brings excellent results at a minimum cost. Rates are only 10c per word with a minimum charge of \$2.00 per issue, except those of individuals seeking employment, where the rate is five cents per word, \$1.00 minimum. Whether you have some surplus equipment or material for sale, have a position open or are looking for a new connection, etc. use space in the Classified Section of MODERN LITHOGRAPHY. It will place you in touch with the entire lithographic industry. Write to MODERN LITHOGRAPHY, 254 W. 31st St., New York 1, N. Y.

Chapman STATIC Neutralizer

Makes Presses
Deliver Light Paper
LIKE THIS
INSTEAD OF LIKE THIS

Reduces Waste - Boosts Production
Solves many Press-Room problems
IN WORLD WIDE USE

CHAPMAN ELECTRIC NEUTRALIZER CO.
BOX 268, PORTLAND 6, MAINE

THERE ARE DEPENDABLE

MERCK PRODUCTS

FOR THE CHEMICAL NEEDS OF THE
PHOTOLITHOGRAPHER

MERCK & CO., Inc. Manufacturing Chemists RAHWAY, N. J.

New York, N. Y. • Philadelphia, Pa. • St. Louis, Mo.
Elkton, Va. • Chicago, Ill. • Los Angeles, Calif.

In Canada: Merck & Co., Ltd., Montreal and Toronto

CONTACT PRINTCRAFT

**IF YOU WANT TO BUY,
SELL, TRADE OR BORROW**

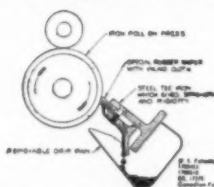
Our organization maintains a clearing house for your individual surplus machines. List them with us and we will sell them for you.

All Negotiations Confidential

Printcraft Representatives

277 Broadway, New York 7, N. Y. • REctor 2-1395

INTERNATIONAL PRESS CLEANERS



are daily demonstrating
their efficiency in increas-
ing Output and Lowering
Production Costs

This Is Our Method of Removing Ink From Press

We invite you to take advantage of our thirty day trial offer. If interested write and let us know the size and make of your press.

INTERNATIONAL PRESS CLEANER & MFG. CO.
112 Hamilton Ave. Cleveland, O.

Conn. Outing July 21

An outing planned jointly by the Connecticut Valley Litho Club and the Connecticut Valley Craftsmen's Club, was planned for Saturday, July 21 at Turner Park, East Longmeadow, Mass. A clambake, and a broad program of outdoor sports was planned.

The Litho Club joined the Craftsmen for a tour through the Strathmore Paper Co. mill, Woronoco, Mass., June 16, and following the tour had dinner at the Strathmore Inn, that city.

Former Hoe President Dies

Harry R. Swartz, 69, former president of R. Hoe & Co., New York, press and equipment manufacturers, died during June. He retired from the Hoe company in 1930, and previously was connected with the Inter-type Corp.

BLIND PLATES

(Continued from Page 25)

Conclusion

After getting it all down on paper, the situation looks staggering when a fellow stops to examine all of the various factors that can blind a plate. But it merely serves to stress the importance of extreme care in all phases of platemaking. Almost every case of blinded plates can be traced to a lack of understanding of what happens to chemicals not handled properly. There is another factor that has caused blind plates, but so little is known regarding this trouble that I hesitate to make a definite statement about it. This concerns the effect of final etches on the developing ink. Generally speaking, the circumstances have been this — Bichromated Gum etches seem better adapted for deep etch plates than surface plates and chrome alum, tannic acid and gum seem to operate with less trouble on surface plates. Countless thousands of plates are made daily without regard to this statement, and it is mentioned without recommendations. Perhaps some readers will pen some thoughts about this angle of blinding plates and send them to me.★★



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(The Advertisers' Index has been carefully checked but no responsibility can be assumed for any omission.)



"Dat's a swell display of fur coats, Cuthbert, but when does de Eskimos show up to begin buyin'?"

Justification...

SOMETIMES it would appear difficult to justify advertising industrial materials and equipment in so-called "general" magazines, — that is magazines designed for newsstand sale to the general public where only a minute fraction of readers might have even a remote interest in purchasing the advertised products. Logic would seem to call for advertising in a plumbing paper if you would sell to the plumbing trade, — or to sell the construction field to use a magazine specializing in this field.

If it is the field of Lithography to which you want to sell, specialized coverage and paid circulation leadership would appear to be strong justification to choose as an advertising medium.

MODERN LITHOGRAPHY
254 WEST 31st STREET NEW YORK 1

Member, Audit Bureau of Circulations

TALE ENDS

We are beginning to see some of our friends from various litho shops back in civilian clothes after being in uniform anywhere from one to four years. It's good to see these fellows at various trade functions again.

★

A citation from the State of Ohio has been awarded to Ronald Ramsey, receiving clerk at United States Printing & Lithographing Co., Norwood, for meritorious service rendered in connection with the Hamilton County Waste Paper Salvage Drive. The citation, signed by Ohio's governor and state salvage officials, was presented to Mr. Ramsey at a ceremony held at the Norwood plant of the company.

Pictured here are (left to right) R. E. Thiele, factory superintendent; Mayor Ward, Mr. Ramsey, and J. M. Callahan, secretary of



the company, at the presentation ceremony. In the most recent waste paper collection drive, Mr. Ramsey, driving a U. S. Printing & Lithograph Company three-quarter ton truck, collected eleven loads of waste paper, totaling more than 18,000 pounds, from his collection territory.

★

Employees of Edward Stern & Co. a while back set as a goal in their blood donating drive 87 pints of blood, a figure equal to the number on the company's service flag. Today a total of 106 pints of blood have been given, and the campaign is continuing. Of the firm's 87 in service, two have been killed.

★

Several litho clubs have returned to their custom of holding outings this year after several years of having indoor affairs or no spring or summer social affairs at all. They are all sticking to places close in, however, to keep travel and gas consumption at a minimum.

MODERN LITHOGRAPHY

THANK



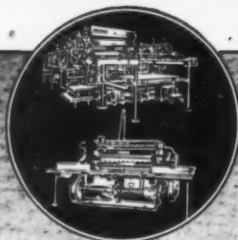
YOU...

for devoting so much space
in your printed matter to the
vital campaigns of The War
Advertising Council and the
Graphic Arts Victory Com-
mittee—and for submitting
so many fine and useful speci-
mens to THE COMMITTEE
OF AWARDS.

The Martin Cantine Company
Saugerties, New York
Specialists in Coated Papers since 1888

Cantine's PRECISION *Coated Papers*

POSTWAR PRESSES AND CUTTERS



THE immediate prewar products of Harris-Seybold were the best on the market. Years were required for their development. When the war started, a redesigning program had been only recently completed. Working under extraordinary conditions, Harris-Seybold equipment has delivered outstanding wartime service. It had to be *right* to do its job.

As always, before new Harris-Seybold equipment is released, it will be tested and proven to protect your investment and maintain our standards. We will continue to build into our postwar machinery the pioneering experience of Harris-Seybold and Potter—the “know how”. There is no substitute for leadership based on cumulative experience.

*Taking the Industry
into our Confidence*

HARRIS • SEYBOLD • POTTER COMPANY

HARRIS DIVISION
CLEVELAND 5, OHIO

Manufacturers of
OFFSET LITHOGRAPHIC • LETTERPRESS AND
GRAVURE PRINTING MACHINERY



SEYBOLD DIVISION
DAYTON 17, OHIO

Manufacturers of
PAPER CUTTERS AND TRIMMERS • KNIFE GRINDERS
DIE PRESSES • WRIGHT DRILLS • MORRISON STITCHERS